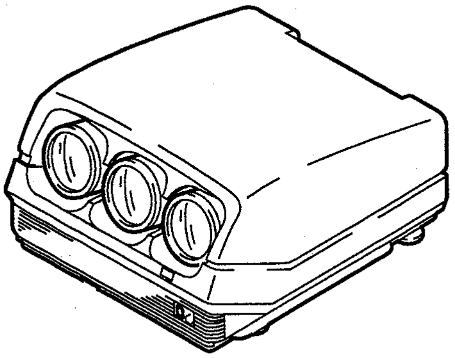
VPH-D50Q/D50QM
RM-PJ1000

SERVICE MANUAL

US Model
Canadian Model
VPH-D50Q
Chassis No. SCC-K78A-A
AEP Model
VPH-D50QM
Chassis No. SCC-K79A-A



SPECIFICATIONS

Optical characteristics

Projection system	3 picture tubes, 3 lenses, horizontal inline system
Picture tube	7-inch high luminance, with coolant sealed
Projection lens	HACC (High-resolution Aspherical and Color Corrected) multicoating lenses
Projected picture size	Factory-adjusted to 120 inches (diagonal measure) Range: 60 to 250 inches (diagonal measure) adjustable
Light output	ANSI lumen 1) (color temperature: 6500°K) 160 lm (fH: 64 kHz, fV: 50 Hz) 135 lm (fH: 15 kHz, fV: 60 Hz) Peak white: 800 lm All white: 200 lm

Electrical characteristics

Color system	NTSC, PAL, SECAM, $NTSC_{4.43}$, and PAL-M switched automatically
Resolution	700 TV lines (video input) 1000 TV lines (HDTV input) 1280 × 1024 pixels (RGB input at fH: 64 kHz, fV: 60 Hz)
RGB inputs	Horizontal frequency: 15 kHz to 64 kHz Vertical frequency: 38 Hz to 150 Hz
Test signal	Various test pattern generators incorporated

— Continued on next page —

MULTISCAN PROJECTOR

SONY®

Input/Output

VIDEO	VIDEO IN: BNC type (1) Composite video input, 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated VIDEO OUT: BNC type (1) Loop-through output of VIDEO IN
S VIDEO	Y IN: BNC type (1) Luminance signal, 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated C IN: BNC type (1) Chrominance signal, 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated S VIDEO IN: 4-pin mini-DIN (1) Y (luminance) signal: 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated C (luminance) signal: 0.286 Vp-p ± 2 dB, 75 ohms terminated (NTSC) 0.3 Vp-p ± 2 dB, 75 ohms terminated (PAL) S VIDEO OUT: 4-pin mini-DIN (1) Loop-through output of S VIDEO IN
INPUT A	BNC type (5) Analog RGB/Component: R/R-Y: 0.7 Vp-p ± 2 dB, 75 ohms terminated, positive G: 0.7 Vp-p ± 2 dB, 75 ohms terminated, positive G with sync/Y: 1 Vp-p ± 2 dB, 75 ohms terminated, sync negative B/B-Y: 0.7 Vp-p ± 2 dB, 75 ohms terminated, positive SYNC/HD: Composite sync: 0.6–8 Vp-p high impedance, sync positive/negative Vertical sync width: wider than horizontal scanning interval (1H) VD:Vertical sync: 0.6–8 Vp-p high impedance, sync positive/negative Vertical sync width: Wider than horizontal scanning interval (1H) HDTV Y/PB/PR: Y: 1 Vp-p ± 2 dB, 75 ohms terminated Tri-level sync: ±0.3 Vp-p, Bi-level sync: 0.3 Vp-p PB/PR: 0.35 Vp-p ± 2 dB, 75 ohms terminated HDTV GBR: G with sync: 1 Vp-p ± 2 dB, 75 ohms terminated, Tri-level sync: ±0.3 Vp-p, Bi-level sync: 0.3 Vp-p B/R: 0.7 Vp-p ± 2 dB, 75 ohms terminated
CONTROL S	IN/PLUG IN POWER: Stereo minijack type (1) 5 Vp-p, plug in power, DC 5 V maximum output 60 mA OUT: stereo minijack type (1) Loop-through output of CONTROL S IN
TRIGGER	Minijack type (1) POWER ON: DC 5 V, output impedance 4.7 kilohms POWER OFF: 0 V
ABL LINK	IN: minijack (1) OUT: minijack (1)
RS-422A	D-sub 9-pin DIN type (1)

1) ANSI lumen is a measuring method of American National Standard IT 7.215.

WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.
LE CHÁSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ Á L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS ÁLA SÉCURITÉ!!

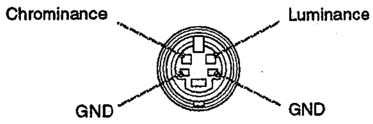
LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MAPQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES CONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

General

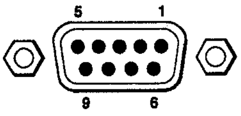
Dimensions	603 × 345 × 671 mm (23 3/4 × 13 19/32 × 26 13/32 inches) (w/h/d)
Mass	Approx. 54.2 kg (119 lb 8 oz)
Power requirements	VPH-D50Q: 120 V AC, 50/60Hz VPH-D50QM: AC 220 – 240 V, 50/60 Hz
Power consumption	Max. 450 W Standby mode: 7 W Power saving mode: 185 W
Operating temperature	0°C to 40°C (32°F to 104°F)
Operating humidity	35% to 85% (no condensation)
Storage temperature	–20°C to 60°C (–4°F to 140°F)
Storage humidity	10% to 90%
Supplied Accessories	Remote control RM-PJ1000 (1) Size AA (R6) batteries (3) Remote control cable (15 m (49.5 feet) long) (1) AC Power cord (1) Power plug adaptor (1) Lens cap (3) Screws with hexagonal hole (6) Operating Instructions (1)

Pin assignment

S VIDEO connector (4-pin, mini-DIN)



RS-422A connector (D-sub 9-pin, female)



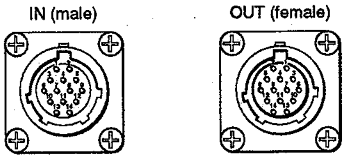
Pin No.	Signal	
1	GND	Ground
2	$\overline{\text{TX}}$	$\overline{\text{Receive}}$
3	RX	Transmit
4	GND	Ground
5	Not used	
6	GND	Ground
7	TX	Receive
8	$\overline{\text{RX}}$	$\overline{\text{Transmit}}$
9	GND	Ground

Optional accessories

Signal Interface Switcher PC-1271/1271M
Signal Interface Unit IFU-1271/1271M
Projector Suspension Support PSS-70, PSS-10
Interface Board IFB-12/20/21/30/1000
Signal Interface Cable
    SIC-10/20A/20B/20C/21/22/23/24/24A/24B/25/26/26A/30/31/M1/5/15/25/50
    CCQ-BRS2/5/10/25/50
Extension Board EXB-DS10 (Internal IDTV board)
Remote Commander RM-PJM800
Remote Control Unit RM-PJ10
Mouse Receiver Unit RM-PJ20
Signal Adaptor ADP-10/20
HD D-sub 15-pin to 5 BNC cable SMF-400
HD D-sub 15-pin to HD D-sub 15-pin cable SMF-401
9-pin remote cable for RS-422A RCC-5G/10G/30G
Screen
    VPS-80FH (80" flat)
    VPS-100FH (100" flat)
    VPS-120FH (120" flat)
    VPS-80FM (80" flat, powered)
    VPS-100FM (100" flat, powered)
    VPS-120FM (120" flat, powered)

Some items may not be available in certain areas. For details, please consult your nearest Sony office.

REMOTE 1 connectors on IFB-40



Pin No.	Signal	Signal level
1	GND	Ground
2	HD/C. sync	1 Vp-p ± 3 dB
3	SIRCS	5 Vp-p ± 1 dB
4	N.C.	Non connection
5	GND (SIRCS)	Ground
6	B/C	B: 0.7 Vp-p ± 3 dB, 75-ohm C (NTSC): 0.286 Vp-p ± 3 dB, 75-ohm C (PAL): 0.3 Vp-p ± 3 dB, 75-ohm
7	GND (B.R)	Ground
8	GND (G)	Ground
9	G/Y	G: 0.7 Vp-p (sync-on-green: 1 Vp-p) ±3 dB, 75-ohm Y: 1 Vp-p ± 3 dB, 75-ohm
10	RGB/Video	5V / 0V
11	R/C. video	R: 0.7 Vp-p ± 3 dB, 75-ohm C. Video: 1 Vp-p ± 3 dB, 75-ohm
12	C. Video/YC	5V / 0V
13	Audio	500 mVrms, output impedance 1 kohm
14	V. sync	1 Vp-p ± 3 dB, 75-ohm

SAFETY CHECK-OUT

(US Model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any). Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a coldwater pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

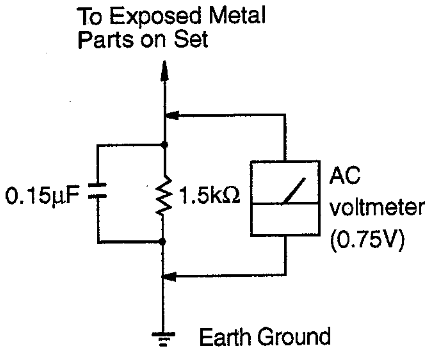


Fig. A. Using an AC voltmeter to check AC leakage.

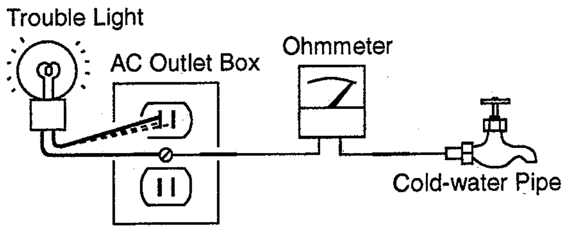


Fig. B. Checking for earth ground.

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SECTION 1
GENERAL

This section is extracted from instruction manual.

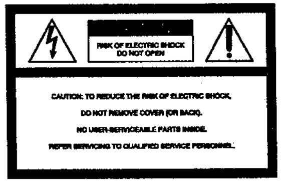
1-1. OPERATING INSTRUCTIONS

English

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.


RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For the customers in the USA
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference wil not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

For the customers in Canada
This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

For the customers in the United Kingdom

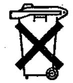
WARNING
THIS APPARATUS MUST BE EARTHED

IMPORTANT
This wires in this mains lead are coloured in accordance with the following code:

Green-and-Yellow:	Earth
Blue:	Neutral
Brown:	Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Voor de klanten in Nederland



Bij dit produkt zijn batterijen geleverd.
Wanneer deze leeg zijn, moet u ze niet weggooien maar inleveren als KCA.

The socket-outlet should be installed near the equipment and be easily accessible.

Precautions

On safety

- Check that the operating voltage of your unit is identical with the voltage of your local power supply. If voltage adaptation is required, consult with qualified Sony personnel.
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it further.
- Unplug the unit from the wall outlet or set the MAIN POWER switch to OFF if it is not to be used for several days.
- To disconnect the cord, pull it out by the plug. Never pull the cord itself.
- The wall outlet should be near the unit and easily accessible.
- The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.

On installation

- When the projector is mounted on the ceiling, the Sony PSS-70 Projector Suspension Support must be used for installation. Read the installation manual of the PSS-70 carefully, since the ceiling should be reinforced for safety.
- Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes. Leave space of more than 30 cm (12 inches) between the wall and the projector. Be aware that room heat rises to the ceiling; check that the temperature near the installation location is not excessive.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust or humidity, mechanical vibration or shock.
- To avoid moisture condensation, do not install the unit in a location where the temperature may rise rapidly.
- Fans are installed inside the projector to prevent internal heat build-up. The fans produce a humming noise when the power is switched on, which is normal. Should the noise sound abnormal, please consult qualified Sony personnel.

On illumination

- To obtain the best picture, the front of the screen should not be exposed to direct lighting or sunlight.
- Ceiling-mounted spot lighting is recommended. Use a cover over fluorescent lamps to avoid lowering the contrast ratio.
- Cover any windows that face the screen with opaque draperies.
- It is desirable to install the projector in a room where floor and walls are not of light-reflecting material. If the floor and walls are of reflecting material, it is recommended that the carpet and wall paper be changed to a dark color.

On operation

To turn on the projector after the projector has been turned off due to a brief loss of power, press the POWER ON key on the remote control, or turn off the MAIN POWER switch so that the STANDBY indicator turns off and then turn on the MAIN POWER switch.

On cleaning

- To keep the cabinet looking new, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution. Never use strong solvents, such as thinner, benzene, or abrasive cleansers, since these will damage the cabinet.
- Avoid touching the lens. To remove dust on the lens, use a soft dry cloth. Do not use a damp cloth, detergent solution, or thinner.

CRT burns

When a static picture of a VCR or a computer is displayed for more than about an hour, a CRT burn may result. This means that an after-image impression of the static picture remains on the screen even after the picture has changed. If it is necessary to display the same static picture for more than an hour, we recommend that you set the CONTR (contrast) control to the lowest setting.

Also, when a picture of different size is displayed beyond a certain length of time, an after-image impression of the frame of the smaller picture may be burnt on the screen (such as displaying a 16:9 wide size picture on a 4:3 screen). To avoid this, we recommend that you use the same picture size when possible. However, if it is necessary to use a different picture size, set the CONTR (contrast) control and the BRT (brightness) control of the smaller picture to the lowest setting possible. This will minimize the risk of creating an after-image impression.

If the CRT burns, it must be replaced. In this case, refer to the warranty provided with this unit. Consult your Sony dealer or Qualified Service Personnel.

On repacking

Save the original shipping carton and packing material; they will come in handy if you ever have to ship your unit. For maximum protection, repack your unit as it was originally packed at the factory.

Features

Multiscan projector

This projector accepts and automatically detects horizontal scanning frequencies between 15 kHz and 64 kHz and vertical scanning frequencies between 38 Hz and 150 Hz.

In addition to high-resolution pictures from computers, you can also project pictures from teletext decoders, VCRs and video cameras.

High resolution and brightness

A newly developed 7-inch CRT and a hybrid Sony HACC (High-resolution Aspherical and Color Corrected) lens are incorporated in the projector to provide a sharp and bright high-quality picture with the high resolution of 1280 × 1024 pixels and the high light output of 160 lumen.

Easy operation—remote control, on-screen display

Adjustments such as input selection, picture control and centering adjustment can be remotely controlled from both the front and rear of the projector with the supplied remote control. You can also use the control as a wired remote control by connecting it to the projector with the supplied remote control cable.

Compatible with various color systems

NTSC, PAL, SECAM, $NTSC_{4.43}$[1] or PAL-M color system can be selected automatically or manually.

Flexible setup

You can project a 60- to 250-inch picture (120-inch standard) with this projector. The projector can be set up on the floor or ceiling, for front or rear projection to suit the installation location, surrounding illumination, usage, etc.

Illuminated control panel/remote control keys

The key names on the remote control and the control panel of the projector can be illuminated for easy access in a dark place by pressing the LIGHT button.

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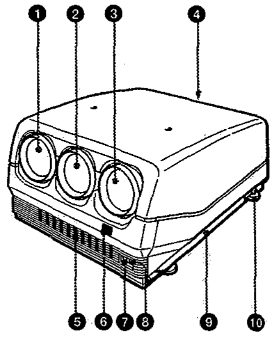
1) $NTSC_{4.43}$ is the color system used when playing back a video recorded on NTSC on a $NTSC_{4.43}$ system VCR.

Location and Function of Controls

Front



❶ **Blue lens**

❷ **Green lens**

❸ **Red lens**

❹ **Control panel**
For details, see "Control Panel" on page 9 (EN).

❺ **Front ventilation hole**

❻ **Front remote control detector**

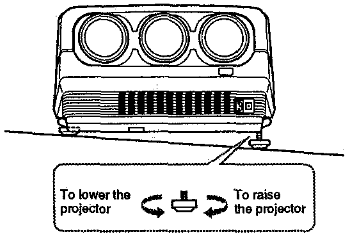
❼ **AC IN socket**

❽ **MAIN POWER switch**

❾ **Handles**
Used for carrying the projector. The handles are located on the right and left sides.

❿ **Adjusters**
Used to keep the projector level if it is installed on an uneven surface (equipped with four adjusters).

How to use the adjusters

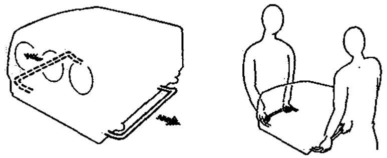


While lifting the projector, turn the adjusters to adjust the height so that the projector becomes level.

Note
Be careful not to let the projector down on your fingers.

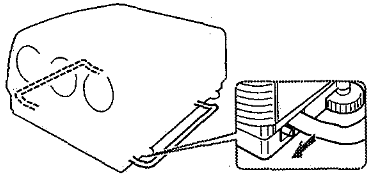
Using the handles

Pull out the side handles.



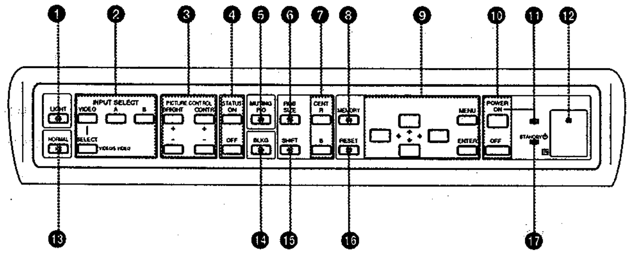
Putting away the handles

Pull the handle release lever under each handle towards you. The handle is automatically retracted.



Control Panel

The keys with the same names as those on the remote control have the same functions. The functions of the keys and switches that are not on the control panel can be selected with the menu operation.



① LIGHT key
Illuminates the key indicators on the control panel. The key indicators turn off if you press the LIGHT key again.
If you do not press any key for more than 30 seconds, the indicators also turn off automatically.

② INPUT SELECT keys
Select the input signal.
VIDEO: The video or S video signal input from the VIDEO IN or S VIDEO IN (or Y/C IN) connectors
SELECT VIDEO/S VIDEO: Selects the signal input from the VIDEO IN or S VIDEO IN (or Y/C IN) connectors by pressing this key after pressing the VIDEO key.
A: The RGB, component or HDTV signal input from the INPUT A connectors
B: The signal input from the INPUT B section when the optional interface board other than the IFB-40 is installed

Note

To switch the input signal from the INPUT A or INPUT B to the S VIDEO IN (or Y/C IN) connectors, first press the VIDEO key, then press the SELECT VIDEO/S VIDEO key.

③ PICTURE CONTROL keys
Adjust the picture conditions: CONTR (contrast) and BRIGHT (brightness).

④ STATUS ON/OFF key
Press OFF to eliminate the on-screen display.
Press ON to restore the on-screen display.

Note

The menus and warning messages appear even if the OFF key is pressed.

⑤ MUTING PIC key
Cuts off the picture. To restore the picture, press the key again.

⑥ RGB SIZE key
Enters the size adjustment mode for the input signal. Next adjust the size of the picture using the four arrow keys.
← : to reduce horizontal size
→ : to expand horizontal size
↑ : to expand vertical size
↓ : to reduce vertical size
Press the MEMORY key ⑧ to store the adjusted value and display the adjusted picture.

⑦ CENT R/B keys
Enter the centering adjustment mode of the red and blue.
R: Press to enter the red centering adjustment mode.
B: Press to enter the blue centering adjustment mode.
Perform the centering adjustment using the four arrow keys.

⑧ MEMORY key
Stores various adjusted data into memory.

⑨ Menu operation keys
Used for various adjustment functions and for menu operations.
MENU: Displays the main menu. Press it again to turn off the menu.
Arrow keys: Adjusts the value or selects the item in the menu.
ENTER: Stores the settings in the menu.

⑩ POWER ON/OFF keys
Turn on and off the projector when the MAIN POWER switch on the projector is set to ON.

⑪ POWER ON indicator
Lights in green when the power of the projector is on.

⑫ Error code window/rear remote control detector
Indicates an error code when an operational error occurs.

⑬ NORMAL key
Erases the test pattern or cancels the various adjustment modes.

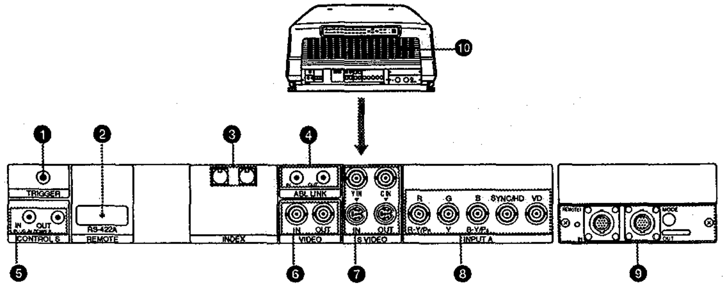
⑭ BLKG (blanking) key
Enters the blanking adjustment mode.
You can adjust the blanking with the four arrow keys.

⑮ RGB SHIFT key
Enters the shift adjustment mode for the input signal. Next adjust the position of the picture using the four arrow keys. The picture shifts in the direction of the arrow on the pressed key.
Press the MEMORY key ⑧ to store the adjusted value and display the adjusted picture.

⑯ RESET key
Resets the adjusted levels to the factory preset or initial setting levels.

⑰ ⏻ STANDBY indicator
Lights in orange when the projector is turned on with the MAIN POWER switch.

Rear



① TRIGGER connector (minijack)
When the projector is turned on, 5 V is output and when it is turned off, 0 V is output. However, the connector is not used as the power source since the power is not output.

② RS-422A REMOTE connector (D-sub 9-pin)
Used to expand the system connections using the RS-422A interface.
Before using the connector, remove the red cap.

③ INDEX NO. switches
When multiple projectors are connected, set the index number of each projector.

Note
If you set the index number to "00", the projector does not operate.

④ ABL (Automatic Brightness Limiter) LINK IN/OUT jacks (minijack)
When connecting multiple projectors, connects the ABL LINK OUT jack to the ABL LINK IN jack on another projector. You can synchronize the brightness limiting point among the projectors, allowing to make the whole screen brightness uniform.

⑤ CONTROL S jacks
IN/PLUG IN POWER (5 V) jack (stereo minijack): Connects to the CONTROL S OUT jack of other Sony equipment. Also connects to the CONTROL S OUT jack of the supplied remote control with the supplied remote control cable (stereo cable) to be used as a wired remote control. In this case, this jack supplys 5 V to the remote control as power source.
OUT jack (stereo minijack): Connects to the CONTROL S IN jack of other Sony equipment.

Note
When using this jack, the remote control detector on the projector does not function.

⑥ VIDEO IN/OUT connectors
VIDEO IN connector (BNC type): Connects to the composite video output of the video equipment.
VIDEO OUT connector (BNC type): Connects to the composite video input of a color monitor.

⑦ S VIDEO IN/OUT connectors
Y IN, C IN connectors (BNC type): Connects to the Y and C video outputs of the video equipment.
S VIDEO IN/OUT connectors (4-pin, mini-DIN type): Connects to the S video output or input of the video equipment.

Note
The S VIDEO IN connector is disconnected when a cable is connected to the Y/C IN connectors.

⑧ INPUT A connectors (BNC type)
R/R-Y/PR, G/Y, B/B-Y/PB, SYNC/HD, VD connectors: Connect to the outputs of a computer or a video camera. According to the connected equipment, the RGB (R, G, B), component (R-Y, G, B-Y) or HDTV (PR, Y, PB) signal is selected.

⑨ Signal interface board attachment part (INPUT B)
The IFB-40 Signal Interface Board is installed by default. Other optional signal interface boards can be attached to this section instead of the IFB-40.
Indicator (red): Lights up when the input of the IFB-40 is selected.
REMOTE 1 IN connector (14-pin multi): When connecting two projectors, connect to the REMOTE 1 OUT connector on the IFB-40 installed to another projector.
REMOTE 1 OUT connector (14-pin multi): Connect to the REMOTE 1 IN connector on the IFB-40.
MODE selector: Turn the control switch of the MODE selector to the appropriate position according to the length of the cable connected to the REMOTE 1 OUT connector.

Cable length	up to 2 m	up to 10 m	up to 25 m	up to 50 m
Type of cable	SIC-M-1 CCQ-2BRS	SIC-M-5 CCQ-5BRS CCQ-10BRS	SIC-M-15 CCQ-25BRS SIC-M-25	SIC-M-50 CCQ-50BRS
Position	1	2	3	4

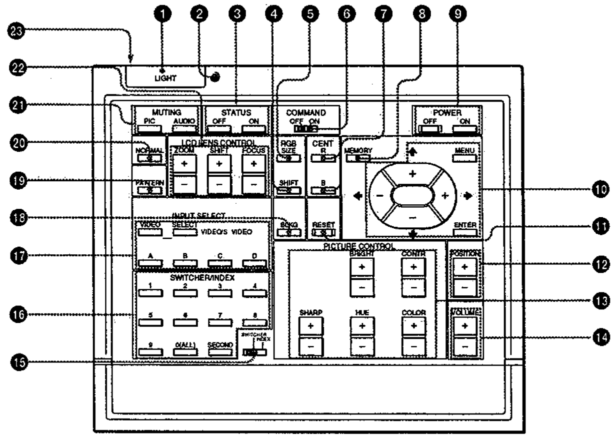
⑩ Rear ventilation hole

Remote Control

The remote control may be used as a wired or wireless remote control.
The keys with the same names as those on the control panel have the same functions.

Note

The VOLUME +/– ⑭, INPUT SELECT C and D ⑰, AUDIO MUTING ㉑ and LCD LENS CONTROL ㉒ keys do not function with this projector.



① LIGHT button
Illuminates the key indicators when the COMMAND switch ⑥ is set to ON. If the COMMAND switch is set to OFF, only the COMMAND switch is illuminated. The key indicators turn off if you press the LIGHT button again.
If you do not press any key for more than 30 seconds, the indicators also turn off automatically.
When the remote control is connected to the CONTROL S IN/PLUG IN POWER jack of the projector via the remote control cable, the power is supplied to the remote control from the projector.

② Transmission indicator
Lights each time you press a key. If it does not light, replace the batteries with new ones.

③ STATUS ON/OFF key
Press OFF to eliminate the on-screen display.
Press ON to restore the on-screen display.

Note

The menus and warning messages appear even if the OFF key is pressed.

④ RGB SHIFT key
Enters the shift adjustment mode for the input signal.
Next adjust the position of the picture using the four arrow keys. The picture shifts in the direction of the arrow on the pressed key.
Press the MEMORY key ⑧ to store the adjusted value and display the adjusted picture.

⑤ RGB SIZE key
Enters the size adjustment mode for the input signal.
Next adjust the size of the picture using the four arrow keys.
← : to reduce horizontal size
→ : to expand horizontal size
↑ : to expand vertical size
↓ : to reduce vertical size
Press the MEMORY key ⑧ to store the adjusted value and display the adjusted picture.

⑥ COMMAND ON/OFF switch
No key on the remote control except the LIGHT button ① function when this switch is set to OFF. This saves battery power.

⑦ CENT R/B keys
Enter the centering adjustment mode of the red and blue.
R: Press to enter the red centering adjustment mode.
B: Press to enter the blue centering adjustment mode.
Perform the centering adjustment using the four arrow keys.

⑧ MEMORY key
Stores various adjusted data into memory.

⑨ POWER ON/OFF key
Turns on and off the projector when the MAIN POWER switch on the projector is set to ON.

⑩ Menu operation keys
Used for various adjustment functions and for menu operations.
MENU: Displays the main menu. Press it again to turn off the menu.
Arrow keys: Adjusts the value or selects the item in the menu.
ENTER: Stores the settings in the menu.

⑪ RESET key
Resets the adjusted levels to the factory preset or initial setting levels.

⑫ POSITION +/– keys
Select the position to be adjusted on the screen in blanking adjustment mode.
Also, set V SHIFT to WIDE or NARROW in the RGB input signal's SHIFT adjustment mode.

⑬ PICTURE CONTROL keys
Adjust the picture conditions: CONTR (contrast), BRIGHT (brightness), COLOR, HUE and SHARP (sharpness).

⑭ VOLUME +/– keys
These keys do not function with this projector.

⑮ SWITCHER/INDEX select switch
Selects the function of the SWITCHER/INDEX keys.
Set to SWITCHER to select the input from the PC-1271/1271M Signal Interface Switcher.
Set to INDEX to assign the index number of each projector when multiple projectors are used.

⑯ SWITCHER/INDEX keys
When the SWITCHER/INDEX select switch is set to SWITCHER
When the PC-1271/1271M switcher (not supplied) is connected to the projector, press a number key (1 – 8) to select the input from the switcher. The number key 9 does not function.
To select the input from the second switcher (when the SINGLE/SECOND/OTHER switch on the switcher is set to SECOND), press a number key between 1 and 8 within two seconds after pressing the SECOND key.
When the SWITCHER/INDEX select switch is set to INDEX
When multiple projectors are connected, select the index number, which is set with the INDEX NO. switch on the rear panel, of the projector to be adjusted. Press a number key (1 – 9) to designate the index number, then press the ENTER key. When adjusting all the projectors simultaneously, press the 0 (ALL) key, then the ENTER key.

⑰ INPUT SELECT keys
Select the input signal.
VIDEO: The video or S video signal input from the VIDEO IN or S VIDEO IN (or Y/C IN) connectors
SELECT VIDEO/S VIDEO: Selects the signal input from the VIDEO IN or S VIDEO IN (or Y/C IN) connectors by pressing this key after pressing the VIDEO key.
A: The RGB, component or HDTV signal input from the INPUT A connectors
B: The signal input from the INPUT B section when the optional interface board other than the IFB-40 is installed
C, D: These keys do not function with this projector.

Note

To switch the input signal from the INPUT A or INPUT B to the S VIDEO IN (or Y/C IN) connectors, first press the VIDEO key, then press the SELECT VIDEO/S VIDEO key.

⑱ BLKG (blanking) key
Enters the blanking adjustment mode.
You can adjust the blanking with the four arrow keys.

⑲ PATTERN key
Displays the internal test patterns of the projector.
Each press of the key displays CROSS HAIR, HATCH (9 × 9), ME and COLOR BAR patterns, sequentially.

⑳ NORMAL key
Erases the test pattern or cancels the various adjustment modes.

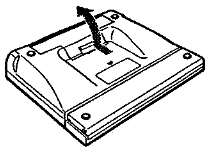
㉑ MUTING keys
PIC (picture): Cuts off the picture. To restore the picture, press the key again.
AUDIO: This key does not funcion with this projector.

㉒ LCD LENS CONTROL keys
These keys do not function with this projector.

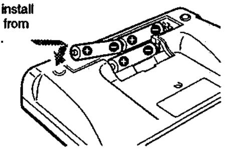
㉓ CONTROL S OUT jack
Connects to the CONTROL S IN/PLUG IN POWER jack on the projector for wired remote control application.

Battery installation

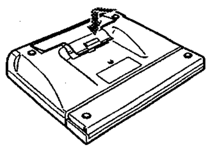
1 Push to open the lid.



2 Install the three size AA (R6) batteries (supplied) with the correct polarity.


Be sure to install the battery from the ⊖ side.

3 Replace the lid.



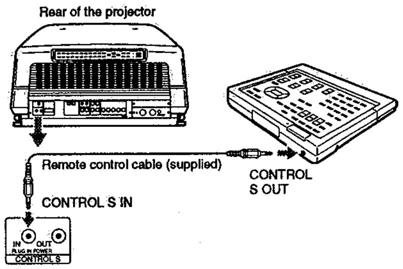
Notes on batteries

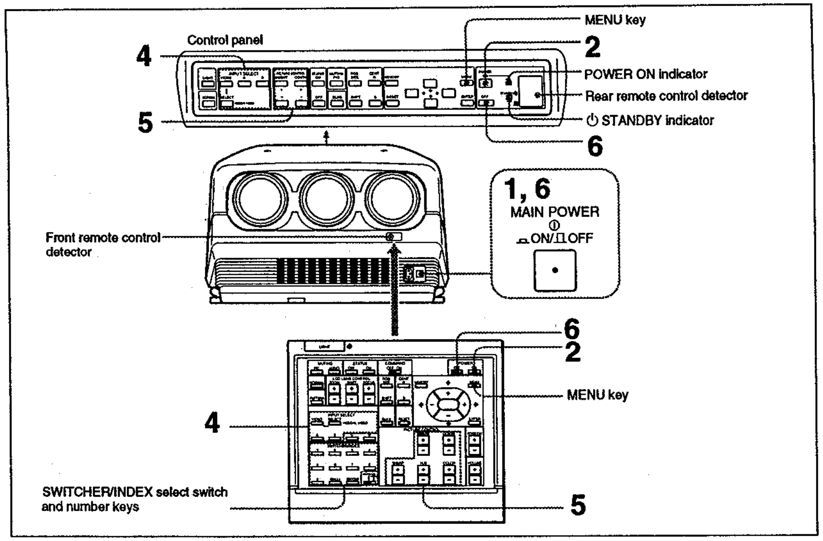
- Be careful that the battery orientation is correct when inserting batteries.
- Do not mix old battery with new one, or different types of batteries.
- If you do not intend to use the remote control for a long time, remove the batteries to avoid damage from battery leakage. If a battery has leaked, remove the batteries, wipe the battery compartment dry and replace the batteries with new ones.

Notes on wireless remote control operation

- Be sure that there is nothing to obstruct the infrared beam between the remote control and the projector.
- The operation range is limited. The shorter the distance between the remote control and the projector, the wider the angle within which the remote control can control the projector.
- The remote control detectors on the projector do not operate when the remote control is being used as a wired remote control. If you wish to use the remote control as a wireless remote control, be sure to remove the connecting cable from both the remote control and the projector.

Connecting the remote control to the projector




4
Control panel
5
MENU key
2
POWER ON indicator
Rear remote control detector
⏻ STANDBY indicator
6
1, 6
MAIN POWER
ON/OFF
Front remote control detector
6
2
MENU key
4
SWITCHER/INDEX select switch and number keys
5

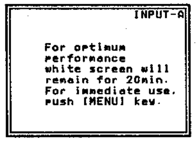
1 Press the MAIN POWER switch on the front of the projector.

The ⏻ STANDBY indicator on the control panel lights in orange and the projector goes into the standby mode.

2 Press the POWER ON key on the remote control or the control panel.

The POWER ON indicator lights in green.

A white screen with the message shown below (warming up screen) appears on the screen. Make sure to allow the projector to warm up for 20 minutes after turning it on.
The message disappears temporarily in about 35 seconds, and will appear subsequently for 5 seconds every 30 seconds.



```
INPUT-A

For optimum
performance
white screen will
remain for 20min.
For immediate use,
push [MENU] key.
```

Press the MENU key to cancel the warming up screen and see the picture immediately after the projector is turned on if, for example, the adjustment has been finished and warming up is not needed.

(continued)

3 Turn on the power of the connected equipment.

4 Select the input signal to be projected by pressing the INPUT SELECT key.

VIDEO and SELECT keys: To project the signal input from the equipment connected to the VIDEO IN or S VIDEO IN (or Y/C IN) connectors. Select VIDEO or S VIDEO by pressing the VIDEO key, then the SELECT key.

A: To project the RGB, component or the HDTV signal input from the equipment connected to the INPUT A connectors.

B: To project the signal input from the equipment connected to the optional interface board other than the IFB-40 installed to the INPUT B section.

When the PC-1271/1271M Signal Interface Switcher is connected: Set the SWITCHER/INDEX select switch on the remote control to SWITCHER and then select the input with the number keys 1 to 8. If two switchers are connected, press the SECOND key and then the number key to select the input from the second switcher.

Note

When you select the input signal connected to the INPUT A or INPUT B section, be sure to select the correct signal in the SET SETTING menu. If an incorrect signal is selected, picture may be distorted.
For details, see "The SET SETTING Menu" on page 31 (EN).

5 Adjust the picture.
For details, see "Adjusting the Picture" on page 19 (EN).

6 To turn the power off, press the POWER OFF key on the remote control or on the control panel of the projector, then set the MAIN POWER switch on the projector to OFF.

To	Press
Trun off the on-screen display	the STATUS OFF key. The menus and warning messages appear even if the OFF key is pressed. To restore the on-screen display, press the STATUS ON key.
Cut off the picture	the MUTING PIC key. To restore the picture, press the MUTING PIC key.

Adjusting the Picture

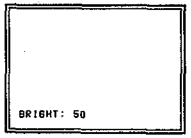
Adjust the picture for your preference. The adjustment data can be saved in the memory.

1 Adjust with the PICTURE CONTROL +/– keys.

Only the remote control is equipped with the COLOR, HUE and SHARP keys.

BRIGHT	Brightness
CONTR	Picture contrast
COLOR	Color intensity
HUE	Hue
SHARP	Sharpness

The adjustment levels are digitally displayed with a range of MIN, 1, 2, ... 99, MAX.



2 Press the MEMORY key to save the data.

Dynamic picture mode (only for the video or component input pictures)

You can get high quality picture contrast by setting D.PICTURE to ON in the PIC CTRL menu.
For details, see "PIC CTRL (Picture Control) menu" on page 26 (EN).

Restoring the initial data

1 Press the PICTURE CONTROL key of the item which you want to reset to the initial data.

2 Press the RESET key.

The selected item is reset to the initial data.

Notes

- The COLOR, SHARP and HUE keys do not function on the pictures input from the RGB IN connectors.
- The HUE and COLOR keys do not function if the input signal is black and white.
- The HUE key does not function with the PAL or SECAM color input source.

Adjusting the Size And Shift of the Picture

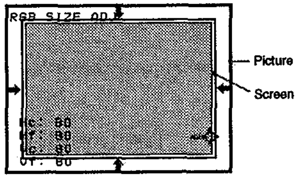
The size and shift of the input picture can be adjusted to fit the screen.

SIZE adjustment

Adjust the picture size if it does not fit the screen.

1 Press the RGB SIZE key.
(Use the RGB SIZE key even for the signal other than RGB.)

2 Adjust the picture size with the arrow keys.
↑ : The vertical size is expanded.
↓ : The vertical size is reduced.
→ : The horizontal size is expanded.
← : The horizontal size is reduced.



3 Press the MEMORY key to save the adjustment data.

Resetting to the initial preset size

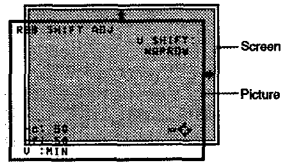
The picture size of the video signal can be reset to the initial preset size by pressing the RESET key in RBG SIZE adjustment mode. (The picture size of signals other than the video signal cannot be reset.)

SHIFT adjustment

If the picture needs to be shifted to fit the screen, adjust the position of the picture.

1 Press the RGB SHIFT key.
(Use the RGB SHIFT key even for the signal other than RGB.)

2 Adjust the shift with the arrow keys.
↑ : The picture is shifted upward.
↓ : The picture is shifted downward.
→ : The picture is shifted rightward.
← : The picture is shifted leftward.



Notes

When the RGB signal is input, the adjustable range of the vertical shift (V SHIFT) can be set to WIDE or NARROW by pressing the POSITION +/– keys.
When the video signal is input, V SHIFT is automatically fixed to NARROW and the adjustable range of the vertical shift will become narrower than that of the RGB signal.

3 Press the MEMORY key to save the adjustment data.

Resetting to the initial preset position

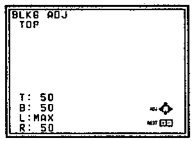
The position of the picture of the video signal can be reset to the initial preset position by pressing the RESET key in RGB SHIFT adjustment mode. (The position of the picture of signals other than the video signal cannot be reset.)

Blanking adjustment

If the displayed picture is larger than the screen, cut off the excess parts.

1 Press the BLKG key.

2 Press the POSITION +/– keys on the remote control to select the part to be adjusted.
- When you press the + key, the position cycles through the following order:
  TOP → BOTTOM → LEFT → RIGHT → TOP...
- When you press the – key, the position cycles in reverse order.



```
BLKG ADJ
 TOP

T: 50
B: 50
L:MAX
R: 50
```

3 Adjust with the arrow keys.
- Press the ↑ and ↓ keys to adjust the TOP and BOTTOM positions.
- Press the ← and → keys to adjust the LEFT and RIGHT positions.

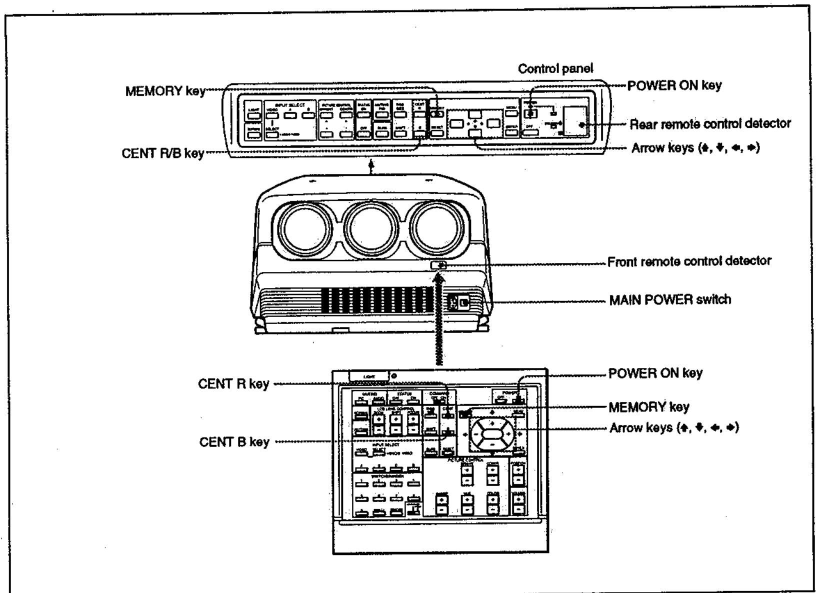
4 Press the MEMORY key to save the adjustment data.

Note

When you connect multiple video input sources to the projector, such as when using the switcher, adjust the picture size, picture shift and blanking for each input connector.

Centering Adjustment

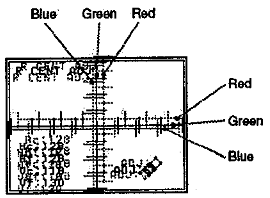
The three colors, red, green and blue must converge for correct projection. If they do not converge, centering adjustment is necessary.


Control panel
MEMORY key
CENT R/B key
POWER ON key
Rear remote control detector
Arrow keys (↑, ↓, ←, →)
Front remote control detector
MAIN POWER switch
CENT R key
CENT B key
POWER ON key
MEMORY key
Arrow keys (↑, ↓, ←, →)

1 Turn the projector on by switching on the MAIN POWER switch and pressing the POWER ON key on the remote control.

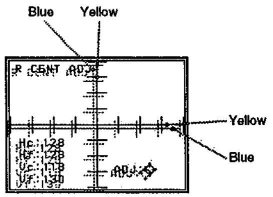
2 Press the CENT R key.

The built-in CROSS HAIR test pattern appears and the red line will be adjustable.


Blue
Green
Red
Red
Green
Blue

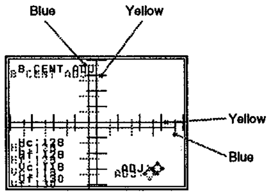
3 Press the arrow keys to move the red line until the red and green lines converge and become yellow.

The red line moves according to the direction of the arrow.


Blue
Yellow
R CENT ADJ
Hc:128
Hf:128
Vc:118
Vf:130
ADJ:
Yellow
Blue

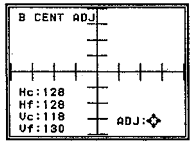
4 Press the CENT B key.

The blue line will be adjustable.


Blue
Yellow
B CENT ADJ
Hc:128
Hf:128
Vc:118
Vf:130
ADJ:
Yellow
Blue

5 Press the arrow keys to move the blue line until the blue and yellow lines converge.

The blue line moves according to the direction of the arrow.
When all three color lines converge, the test pattern will become white.


B CENT ADJ
Hc:128
Hf:128
Vc:118
Vf:130
ADJ:

6 Press the MEMORY key.

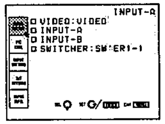
The normal display is restored.

Using the Menu

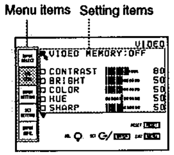
The projector is equipped with an on-screen menu for making various adjustments and settings.
The language used in the menu can be changed to French, German, Italian, Spanish, Japanese or Chinese.
For details, see "LANGUAGE" on page 32 (EN).

Basic Menu Operation

1 Press the MENU key.
The menu display appears.
The menu presently selected is highlighted in blue.


INPUT-A
VIDEO:VIDEO
INPUT-A
INPUT-B
SWITCHER:SW'ER1-1

2 Use the ↓ or ↑ keys to select a menu, then press the → key or the ENTER key.
The selected menu appears.
The setting items that are indicated in white cannnot be selected.

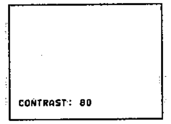

Menu items
Setting items
VIDEO
VIDEO MEMORY:OFF
CONTRAST 80
BRIGHT 50
COLOR 50
HUE 50
SHARP 50

3 Use the ↓ or ↑ keys to select a setting item, then press the → key or the ENTER key.
The adjustment menu or the setting menu (pop-up menu) appears.

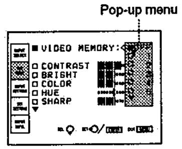
If there are two or more pages for a menu
The ▼ indication appears below the bottom item.
To go to the next page, move the cursor to the bottom item with the ↓ key, then press the ↓ key.
To go back to the previous page, move the cursor to the top item with the ↑ key, then press the ↑ key.

4 Make adjustment or setting on the menu.

To change the adjustment level
To increase the level, press the ↑ or → key.
To decrease the level, press the ↓ or ← key.
Then press the ENTER key to store the level. The original screen is restored.


CONTRAST: 80

To select an item
Use the ↓ or ↑ key to select an item in a pop-up menu, then press the ← key or the ENTER key. The selected setting is stored and the pop-up menu disappears.


Pop-up menu
VIDEO MEMORY:
CONTRAST
BRIGHT
COLOR
HUE
SHARP

For details on setting individual items, see the relevant menu pages.

To clear the menu display

Press the MENU key.
The menu display also disappears automatically if no key is pressed for about one minute.

To reset the settings that have been adjusted

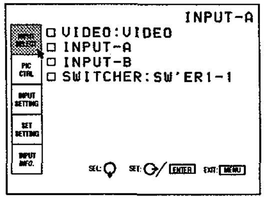
Press the RESET key. "Reset complete!" appears on the screen and the settings appearing on the screen will be reset to the factory preset or initial setting levels.

Memory of the settings

The settings in the menus are automatically stored in the projector memory. You can also store the setting by pressing the MEMORY key.

The INPUT SELECT Menu

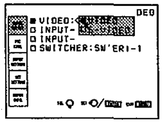
The INPUT SELECT menu is used for selecting the input signal.
Items that can be selected are highlighted in green.
You cannot select the items indicated in white.



```
INPUT-A
□ VIDEO:VIDEO
□ INPUT-A
□ INPUT-B
□ SWITCHER:SW'ER1-1
```

VIDEO

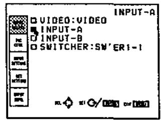
Selects signal input from the VIDEO IN or S VIDEO IN (or Y/C IN) connectors.



Select VIDEO or S-VIDEO in the pop-up menu.

INPUT-A

Selects signal input from the INPUT A connectors.



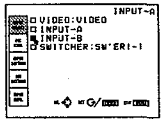
```
INPUT-A
□ VIDEO:VIDEO
□ INPUT-A
□ INPUT-B
□ SWITCHER:SW'ER1-1
```

Notes

- When the PC-1271/1271M Signal Interface Switcher is connected to the INPUT A connectors using the 5BNC cables, INPUT-A cannot be selected.
- If the setting of INPUT-A in the SET SETTING menu is incorrect, the picture may be distorted.
  For details, see page 31 (EN).

INPUT-B

Selects signal input from the connectors on the signal interface board (not supplied) installed to the INPUT B section.



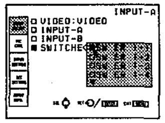
```
INPUT-A
□ VIDEO:VIDEO
□ INPUT-A
□ INPUT-B
□ SWITCHER:SW'ER1-1
```

Notes

- When the PC-1271/1271M Signal Interface Switcher is connected to the projector via the IFB-40 Signal Interface Board installed to the INPUT B section, INPUT-B cannot be selected.
- If the setting of INPUT-B in the SET SETTING menu is incorrect, the pictue may be distorted.
  For details, see page 31 (EN).

SWITCHER

When the PC-1271/1271M Signal Interface Switcher is connected to the projector, selects signal input from the switcher.



You can select SW'ER1-1 to SW'ER2-8 in the pop-up menu. They are always displayed in green even when no signal is input.

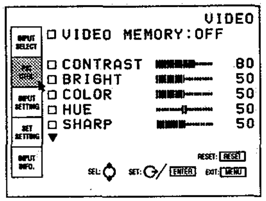
Note

SWITCHER can be selected only when the IFB-40 Signal Interface Board is installed to the INPUT B section, or when 5BNC MODE in the SET SETTING menu is set to ON.

The PIC CTRL (Picture Control) Menu

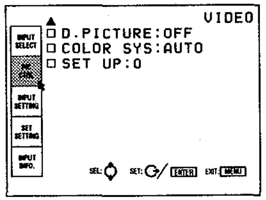
The PIC CTRL menu is used for adjusting the picture.
Items that can be adjusted are highlighted in green.
You cannot select the items indicated in white.

Page 1



```
VIDEO
□ VIDEO MEMORY:OFF

□ CONTRAST    80
□ BRIGHT      50
□ COLOR       50
□ HUE         50
□ SHARP       50
▼
```

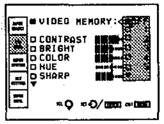
Page 2



```
▲             VIDEO
□ D.PICTURE:OFF
□ COLOR SYS:AUTO
□ SET UP:0
```

VIDEO MEMORY

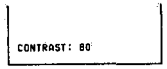
Selects a memory number of the adjusted picture levels.



Select a number from 1 to 10 in the pop-up menu, then the picture levels that have been adjusted will be stored in the number of the projector's memory.
If you want to use the data at the factory preset levels, select OFF.
The items to be stored in the VIDEO MEMORY are shown in the table of the memory architecture under "Input memory" (except for the items, "clamp position" and "registration").

CONTRAST

Adjusts the picture contrast.

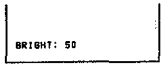


CONTRAST: 80

The higher the setting, the greater the contrast.
The lower the setting, the lower the contrast.

BRIGHT

Adjusts the picture brightness.

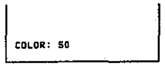


BRIGHT: 50

The higher the setting, the brighter the picture.
The lower the setting, the darker the picture.

COLOR

Adjusts color intensity.

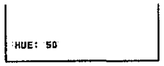


COLOR: 50

The higher the setting, the greater the intensity.
The lower the setting, the lower the intensity.

HUE

Adjusts skin tones.

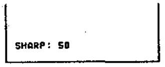


HUE: 50

At high settings, the picture becomes greenish.
At low settings, the picture becomes purplish.

SHARP

Adjusts the picture sharpness.

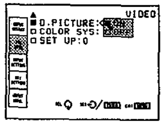


SHARP: 50

The higher the setting, the sharper the picture.
The lower the setting, the softer the picture.

D. (Dynamic) PICTURE

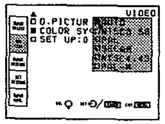
Emphasizes the black of the composite video, S video (Y/C) or component signal.


VIDEO
D.PICTURE:
COLOR SYS:
SET UP:0

ON: Emphasizes the black to produce a bolder "dynamic" picture.
OFF: Reproduces the dark portions of the picture accurately, in accordance with the source signal.

COLOR SYS (System)

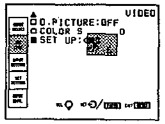
Selects the color system of the composite video or S video (Y/C) signal.


VIDEO
D.PICTUR
COLOR SYS
SET UP:0

Normally, set to AUTO.
If the picture is distorted or colorless, select the color system according to the input signal.

SET UP

Changes the set up level (standard black level) to 0 IRE or 7.5 IRE according to the NTSC source signal.


VIDEO
D.PICTURE:OFF
COLOR S
SET UP:

0 IRE: Normally, set to this position.
7.5 IRE: Set to this position when the black color is too light.

Input signals and adjustable/setting items

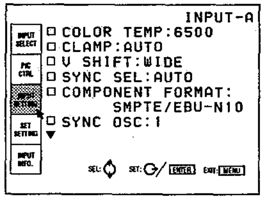
Items	Input signal			
	Video or S video (Y/C)	Component	HDTV	RGB
CONTRAST	Y	Y	Y	Y
BRIGHT	Y	Y	Y	Y
COLOR	Y	Y	Y	N
HUE	Y (NTSC$_{3.58}$/ NTSC$_{4.43}$ system only)	N	Y	N
SHARP	Y	Y	Y	N
D. PICTURE	Y	Y	N	N
COLR SYS	Y	N	N	N
SET UP	Y (NTSC$_{3.58}$/ NTSC$_{4.43}$ system only)	N	N	N

Y: Adjustable/can be set
N: Not adjustable/cannot be set

The INPUT SETTING Menu

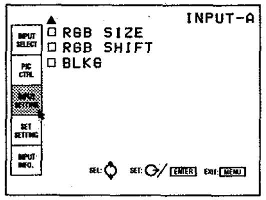
The INPUT SETTING menu is used to adjust the input signal.
Items that can be adjusted are displayed in green.
You cannot select the items indicated in white.

Page 1


INPUT-A
INPUT SELECT
PIC CTRL
INPUT SETTING
SET SETTING
INPUT INFO.
SEL:
SET:
ENTER
EXIT:
MENU

INPUT-A
☐ COLOR TEMP:6500
☐ CLAMP:AUTO
☐ V SHIFT:WIDE
☐ SYNC SEL:AUTO
☐ COMPONENT FORMAT:
SMPTE/EBU-N10
☐ SYNC OSC:1

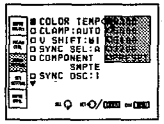
Page 2


INPUT-A
SEL:
SET:
ENTER
EXIT:
MENU

INPUT-A
☐ RGB SIZE
☐ RGB SHIFT
☐ BLKG

COLOR TEMP (Temperature)

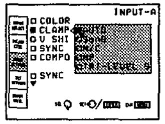
Selects the appropriate color temperature according to your application and the input source signal.


COLOR TEMP
CLAMP:AUTO
V SHIFT:WI
SYNC SEL:A
COMPONENT
SMPTE
SYNC OSC:1
PRESET

If you wish to make the color of a particular input signal uniform to that of a color monitor, select PRESET, then adjust the white balance.

CLAMP

Corrects the luminance of the input picture.


INPUT-A
COLOR
CLAMP
V SHI
SYNC
COMPO
SYNC
TRI-LEVEL/S

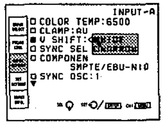
CLAMP is used as a standard for setting the black level of a picture correctly. The standard position of the clamp depends on the kind of sync signal being used. Normally, the projector CPU judges the signal and sets the position automatically. However, the CPU can misjudge the signal because of noise. If the luminance of the picture seems to be incorrect, the clamp position may need to be changed.

AUTO: Automatic setting mode. Normally set to this position.
SonG: Set to this position if the black seems too light or greenish.
H/C: Set to this position if the picture is too dark or luminance is unstable.
HP: If the luminance is still incorrect after changing to the SonG or H/C position, set to this position and perform the H-SHIFT adjustment.
TRI-LEVEL/S: Set to this position if the picture is dark when using the tri-level sync.

Note
If the luminance is still incorrect after changing the clamp setting, check the input signal and the connections.

V (vertical) SHIFT

Sets the adjustable range of the vertical shift of the input signal.

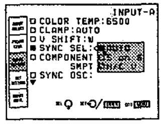

INPUT-A
COLOR TEMP:6500
CLAMP:AU
V SHIFT:
SYNC SEL
COMPONEN
SMPTE/EBU-N10
SYNC OSC:1

WIDE: Normally, set to this position (factory preset).
NARROW: When some signal such as a superimposed signal with unstable vertical sync. signal is input, the picture may be distorted vertically. In this case, set to this position. Adjustable range in the lower direction will become narrow.

Note
When the video, S video or component signal is input, V SHIFT is fixed to NARROW.

SYNC SEL (select)

Selects the sync signal.


INPUT-A
COLOR TEMP:6500
CLAMP:AUTO
V SHIFT:W
SYNC SEL:
COMPONENT
SMPT
SYNC OSC:

AUTO: Automatic setting mode. Normally set to this position.
S on G: Set to this position if you project the picture using the sync on G signal.
H/C V: Set to this position if you project the picture using the external sync signal.

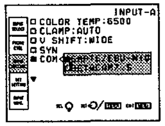
When an HDTV signal is input

You can select the items below instead of the above items.

INT: Set to this position when using the internal sync signal.
EXT (C): Set to this position when using the external composite sync signal.
EXT (HV): Set to this position when using the external horizontal/vertical sync signal.

COMPONENT FORMAT

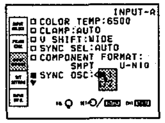
Selects the format of the component input signal.


INPUT-A
COLOR TEMP:6500
CLAMP:AUTO
V SHIFT:WIDE
SYN
COM

SMPTE/EBU-N10: Set to this position if the input signal is the SMPTE or EBU-N10 format component signal.
BETACAM7.5: Set to this position if the input signal is the Betacam format component signal.

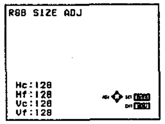
SYNC OSC (oscillation)

Normally, set to 1. When synchronization is distorted according to the type of the input signal, set to 2.


INPUT-A
COLOR TEMP:6500
CLAMP:AUTO
V SHIFT:WIDE
SYNC SEL:AUTO
COMPONENT FORMAT:
SMPT U-N10
SYNC OSC:

RGB SIZE

Adjusts the picture size of the input signal.

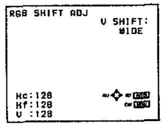

RGB SIZE ADJ
Hc:128
Hf:128
Vc:128
Vf:128

Use the ◆ or ➡ key to adjust the horizontal size.
Use the ⬆ or ⬇ key to adjust the vertical size.

Hc and Hf show the size adjustment levels for the horizontal direction and Vc and Vf show those for the vertical direction. The higher the setting level, the greater the picture size.

RGB SHIFT

Adjusts the picture position of the input signal.

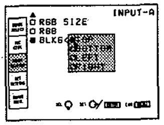

RGB SHIFT ADJ
V SHIFT:
WIDE
Hc:128
Hf:128
V :128

Use the ◆ or ➡ key to adjust the horizontal position.
Use the ⬆ or ⬇ key to adjust the vertical position.

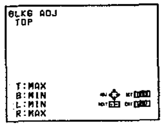
Hc and Hf show the shift adjustment levels for the horizontal direction and V shows the level for the vertical direction.

BLKG (Blanking)

Cuts off the excess parts if the displayed picture is larger than the screen.


INPUT-A
RGB SIZE
RGB
BLKG

Select the part to be adjusted among TOP, BOTTOM, LEFT and RIGHT, then press the ➡ key or the ENTER key to display the blanking adjustment screen.


BLKG ADJ
TOP
T:MAX
B:MIN
L:MIN
R:MAX

Use the ⬆ or ⬇ key to adjust the TOP and BOTTOM parts.
Use the ◆ or ➡ key to adjust the LEFT and RIGHT parts.

Input signals and adjustable/setting items

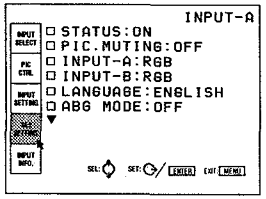
Items	Input signal			
	Video or S video (Y/C)	Component	HDTV	RGB
COLOR TEMP	Y	Y	Y	Y
CLAMP	N	N	Y	Y
V SHIFT	N	N	Y	Y
SYNC SEL	N	N	Y	Y
COMPONENT FORMAT	N	Y	N	N
SYNC OSC	Y	Y	Y	Y
RGB SIZE	Y	Y	Y	Y
RGB SHIFT	Y	Y	Y	Y
BLKG	Y	Y	Y	Y

Y: Adjustable/can be set
N: Not adjustable/cannot be set

The SET SETTING Menu

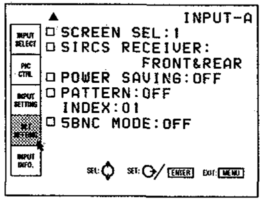
The SET SETTING menu is used for changing the default settings of the projector.
Items that can be adjusted are highlighted in green.
You cannot select the items indicated in white.

Page 1



```
INPUT-A
□ STATUS:ON
□ PIC.MUTING:OFF
□ INPUT-A:RGB
□ INPUT-B:RGB
□ LANGUAGE:ENGLISH
□ ABG MODE:OFF
▼
```

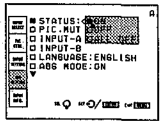
Page 2



```
▲
INPUT-A
□ SCREEN SEL:1
□ SIRCS RECEIVER:
         FRONT&REAR
□ POWER SAVING:OFF
□ PATTERN:OFF
  INDEX:01
□ SBNC MODE:OFF
```

STATUS

Selects the on-screen display mode.



```
A
■ STATUS:
□ PIC.MUT
□ INPUT-A
□ INPUT-B
□ LANGUAGE:ENGLISH
□ ABG MODE:ON
▼
```

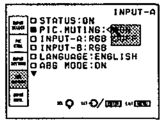
ON: Shows all of the on-screen displays.

OFF: Turns off the on-screen displays except for "NO INPUT," "PIC MUTING," warning messages and menu displays.

ALL OFF: Turns off all of the on-screen displays except for warning messages and menu displays.

PIC. (picture) MUTING

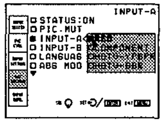
Set to ON to cut off the picture.
When set to ON, "PIC MUTING" appears on the screen.



```
INPUT-A
□ STATUS:ON
■ PIC.MUTING:
□ INPUT-A:RGB
□ INPUT-B:RGB
□ LANGUAGE:ENGLISH
□ ABG MODE:ON
▼
```

INPUT-A

Selects the signal input from the INPUT A connectors.

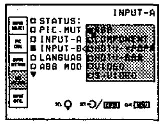


```
INPUT-A
□ STATUS:ON
□ PIC.MUT
■ INPUT-A
□ INPUT-B
□ LANGUAG
□ ABG MOD
▼
```

RGB: Inputs the RGB signal.
COMPONENT: Inputs the component signal.
HDTV-YPBPR: Inputs the HDTV (YPBPR) signal.
HDTV-GBR: Inputs the HDTV(GBR) signal.

INPUT B

Selects the signal input from the IFB-12 Signal Interface Board (not supplied) installed to the INPUT B section.



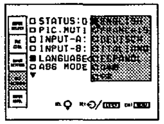
```
INPUT-A
□ STATUS:
□ PIC.MUT
□ INPUT-A
■ INPUT-B
□ LANGUAG
□ ABG MOD
▼
```

RGB: Inputs the RGB signal.
COMPONENT: Inputs the component signal.
HDTV-YPBPR: Inputs the HDTV (YPBPR) signal.
HDTV-GBR: Inputs the HDTV(GBR) signal.
VIDEO: Inputs the composite video signal.
S-VIDEO: Inputs the S video signal.

Note
When a signal interface board other than the IFB-12 is installed, the menu items cannot be selected.

LANGUAGE

Selects the language used in the on-screen displays.

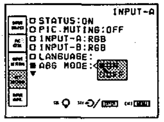


```
□ STATUS:O
□ PIC.MUTI
□ INPUT-A:
□ INPUT-B:
■ LANGUAGE
□ ABG MODE
▼
```

Available languages are: English, French, German, Italian, Spanish, Japanese and Chinese.

ABG (Automatic Background) MODE

Normally, set to ON (factory setting). Cutoff luminance will be set to a certain level. Set to OFF if you want to erase the horizontal luminescent line for cutoff level detection that may appear at the upper part of the picture.

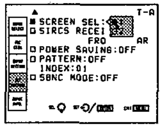


```
INPUT-A
□ STATUS:ON
□ PIC.MUTING:OFF
□ INPUT-A:RGB
□ INPUT-B:RGB
□ LANGUAGE:
■ ABG MODE:
▼
```

Note
When ABG MODE is set to OFF, the black level of the white balance may change.

SCREEN SEL (Select)

Selects the screen to be used.

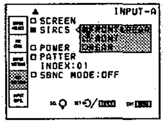


```
▲
T-A
■ SCREEN SEL:
□ SIRCS RECEI
         FRO      AR
□ POWER SAVING:OFF
□ PATTERN:OFF
  INDEX:01
□ SBNC MODE:OFF
```

1: Bead screen
2: Mat screen

SIRCS RECEIVER

Selects the remote control detectors on the front and rear of the projector, if the wireless remote control does not operate correctly due to the influence of a fluorescent lamp, etc.

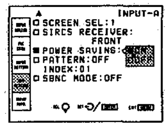


```
▲
INPUT-A
□ SCREEN
■ SIRCS
□ POWER
□ PATTER
  INDEX:01
□ SBNC MODE:OFF
```

FRONT & REAR: Activates both the front and rear detectors.
FRONT: Activates the front detector only.
REAR: Activates the rear detector only.

POWER SAVING

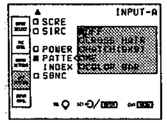
When set to ON, the projector goes into the power saving mode if no signal is input for 10 minutes. The screen enters cutoff mode. The power saving mode is canceled when a signal is input or whenever any key is pressed.



```
▲
INPUT-A
□ SCREEN SEL:1
□ SIRCS RECEIVER:
         FRONT
■ POWER SAVING:
□ PATTERN:OFF
  INDEX:01
□ SBNC MODE:OFF
```

PATTERN

Selects the type of the test pattern to be displayed.

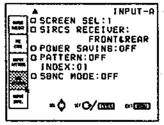


```
▲                INPUT-A
□ SCRE
□ SIRC      OFF
            CROSS HAIR
□ POWER     HATCH(9X9)
■ PATTE◁    ME
  INDEX     COLOR BAR
□ 5BNC
```

Selectable patterns are: CROSS HAIR, HATCH (9 × 9), ME and COLOR BAR.
Set to OFF when you do not want to display a test pattern.

INDEX (Index number)

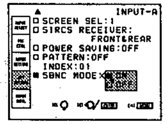
Indicates the index number of the projector set with the INDEX NO. switches on the rear panel.



```
▲                INPUT-A
□ SCREEN SEL:1
□ SIRCS RECEIVER:
          FRONT&REAR
□ POWER SAVING:OFF
□ PATTERN:OFF
  INDEX:01
□ 5BNC MODE:OFF
```

5BNC MODE

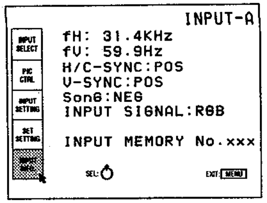
Set to ON when you connect the MONITOR OUT connector on the PC-1271/1271M Signal Interface Switcher to the INPUT A connectors with the 5BNC cables.



```
▲                INPUT-A
□ SCREEN SEL:1
□ SIRCS RECEIVER:
          FRONT&REAR
□ POWER SAVING:OFF
□ PATTERN:OFF
  INDEX:01
■ 5BNC MODE◁ ON
             OFF
```

The INPUT INFO (Information) Menu

The INPUT INFO menu displays the information on the current input signal.



```
                 INPUT-A
fH: 31.4KHz
fV: 59.9Hz
H/C-SYNC:POS
V-SYNC:POS
SonG:NEG
INPUT SIGNAL:RGB

INPUT MEMORY No.xxx
```

fH (Horizontal frequency)

Indicates the horizontal frequency of the input signal. This indication is not an absolute value, but is only used as a reference.

fV (Vertical frequency)

Indicates the vertical frequency of the input signal. This indication is not an absolute value, but is only used as a reference.

H/C (Horizontal/Composite)-SYNC

Indicates the polarity of the horizontal or composite sync signal. When the picture is being projected using this type of sync signal, the POS (NEG) is displayed in green. When the picture is being projected without using this type of sync signal, the POS (NEG) is displayed in white.
POS: The polarity of the sync signal is positive.
NEG: The polarity of the sync signal is negative.
– – –: No sync signal is input.

V (Vertical)-SYNC

Indicates the polarity of the vertical or composite sync signal.
When the picture is being projected using this type of sync signal, the POS (NEG) is displayed in green.
When the picture is being projected without using this type of sync signal, the POS (NEG) is displayed in white.
POS: The polarity of the sync signal is positive.
NEG: The polarity of the sync signal is negative.
– – –: No sync signal is input.

SonG (Sync on Green)

Indicates the polarity of the sync on Green. When the picture is being projected using this type of sync signal, the NEG is displayed in green. When the picture is being projected without using this type of sync signal, the NEG is displayed in white.
NEG: The polarity of the sync signal is negative.
– – –: No sync. signal is input.

INPUT SIGNAL

Displays the type of current input signal.
NTSC 3.58: NTSC $_{3.58}$ input signal
PAL: PAL input signal
SECAM: SECAM input signal
NTSC 4.43: NTSC $_{4.43}$ input signal
PAL-M: PAL-M input signal
B/W: Black and white input signal
Y/C: S video input signal
RGB: RGB input signal
COMPONENT: Component input signal
HDTV YPBPR: HDTV YP_BP_R input signal
HDTV GBR: HDTV GBR input signal
IDTV: IDTV input signal from the optional PC-1271/1271M Signal Interface Switcher via the optional IFB-3000 Interface Board installed to the PC-1271/1271M.

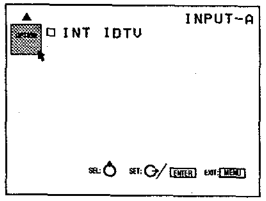
INPUT MEMORY NO.

Indicates the memory number of the current input signal. By default seven basic data are preset in the following memory numbers.

Memory number	Preset signal frequencies		Type of the input signal
	fH	fV	
00	15.7 kHz	60 Hz	Video (NTSC$_{3.58}$)
01	24.8 kHz	56 Hz	RGB
02	31.5 kHz	60 Hz	RGB
03	48.3 kHz	60 Hz	RGB
04	64.0 kHz	60 Hz	RGB
05	31.5 kHz	60 Hz	IDTV (NTSC$_{3.58}$)
06	33.8 kHz	60 Hz	HDTV (Y/P_B/P_R)

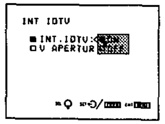
The OPTION Menu

The OPTION menu is used when installing the EXB-DS10 Extension Board to the projector.


```
▲                 INPUT-A
  □ INT  IDTV
```

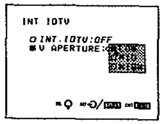
INT. (internal) IDTV

Set to ON to project the video, S video, component or RGB (15 kHz) signal at double density.


```
INT IDTV
■ INT.IDTV:
□ V APERTUR
```

V. (vertical) APERTURE

Corrects the sharpness in the vertical direction. You can set the sharpness to the LOW, MID (middle) or HIGH level.

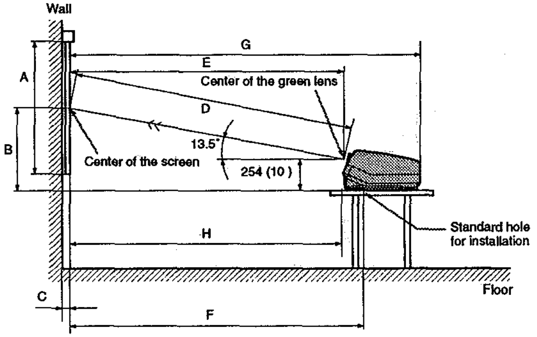

```
INT IDTV
□ INT.IDTV:OFF
■ V APERTURE:
```

Installation Examples

Installation and the preliminary adjustments should be carried out by Qualified Sony Personnel. This projector allows you to project the picture between 60 and 250 inches.

Installation 1 Floor Installation Using Front Projection Flat Screen

Be sure that the projector is level to the floor.



B: Difference in height between the projector's bottom surface and the center of the screen
E: Horizontal distance between the center of the screen and the center of the green lens
F: Horizontal distance between the center of the screen and the standard hole for installation

Tolerances
B: ±5%
Other measurements: 0% to +5%

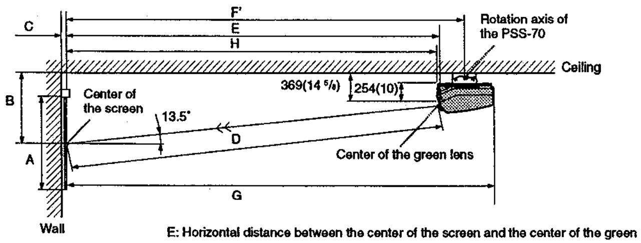
The distances in gray are the factory preset settings. Unit:mm (inches)

Screen size (inches)	60	70	80	90	100	120	150	180	200	250
A (Vsize)	914 (36)	1067 (42)	1219 (48)	1372 (54)	1524 (60)	1829 (72)	2286 (90)	2743 (108)	3048 (120)	3810 (150 1/8)
B (Hcent)	710 (28)	777 (30 5/8)	845 (33 3/8)	912 (36)	980 (38 5/8)	1114 (43 7/8)	1320 (52)	1526 (60 1/8)	1662 (65 1/2)	2005 (79)
C (Width)				28[a] (1 1/8)	32[b] (1 5/16)	32[c] (1 5/16)				
D (TD)	1956 (77 1/8)	2240 (88 1/4)	2529 (99 5/8)	2816 (111)	3102 (122 1/4)	3673 (144 5/8)	4551 (179 1/4)	5425 (213 5/8)	6012 (236 3/4)	7466 (294)
E (Xlens)	1902 (74 7/8)	2179 (85 7/8)	2459 (96 7/8)	2738 (107 7/8)	3016 (118 7/8)	3571 (140 5/8)	4424 (174 1/4)	5274 (207 5/8)	5844 (230 1/8)	7257 (285 3/4)
F (Lhole)	2033 (80 1/16)	2310 (91)	2591 (102)	2869 (113)	3148 (124)	3703 (145 7/8)	4556 (179 3/8)	5405 (212 7/8)	5976 (235 3/8)	7389 (291)
G (Lmax)	2535 (99 7/8)	2812 (110 3/4)	3092 (121 3/4)	3371 (132 3/4)	3649 (143 3/4)	4204 (165 5/8)	5057 (199 1/8)	5907 (232 5/8)	6477 (255 1/8)	7890 (310 3/4)
H (Lfront)	1864 (73 1/2)	2141 (84 3/8)	2421 (95 3/8)	2700 (106 3/8)	2978 (117 3/8)	3533 (139 1/8)	4386 (172 3/4)	5236 (206 1/4)	5806 (228 5/8)	7219 (284 1/4)

a) Sony VPS-100FH
b) Sony VPS-100FM
c) Sony VPS-120FH and VPS-120FM

Installation 2 Ceiling Installation Using Front Projection Flat Screen

Use the PSS-70 projector suspension support (not supplied).


C
F'
E
H
Rotation axis of the PSS-70
Ceiling
B
Center of the screen
13.5°
369(14 5/8)
254(10)
D
Center of the green lens
A
G
Wall

E: Horizontal distance between the center of the screen and the center of the green lens

Tolerances
B: ±5%
Other measurements: 0% to +5%

The distances in gray are the factory preset settings. Unit:mm (inches)

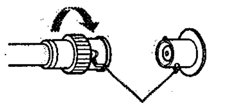
Screen size (inches)	60	70	80	90	100	120	150	180	200	250
A (Vsize)	914 (36)	1067 (42)	1219 (48)	1372 (54)	1524 (60)	1829 (72)	2286 (90)	2743 (108)	3048 (120)	3810 (150)
B (Hcent)	825 (32 1/2)	892 (35 1/8)	960 (37 7/8)	1027 (40 1/2)	1094 (43 1/8)	1229 (48 3/8)	1435 (56 1/2)	1640 (64 5/8)	1777 (70)	2120 (83 1/2)
C (Width)					28[a] (1 1/8) 32[b] (1 5/16)	32[c] (1 5/16)				
D (TD)	1956 (77)	2240 (88 1/4)	2529 (99 5/8)	2816 (110 7/8)	3102 (122 1/4)	3673 (144 5/8)	4551 (179 1/4)	5425 (213 5/8)	6012 (236 3/4)	7466 (294)
E (Xlens)	1902 (74 7/8)	2179 (85 7/8)	2459 (96 7/8)	2738 (107 7/8)	3016 (118 7/8)	3571 (140 5/8)	4424 (174 1/4)	5274 (207 5/8)	5844 (230 1/8)	7257 (285 3/4)
F' (Lpss)	2166 (85 3/8)	2442 (96 1/4)	2723 (107 1/4)	3001 (118 1/4)	3280 (129 1/4)	3835 (151)	4688 (184 5/8)	5537 (218 1/8)	6108 (240 1/2)	7521 (296 1/8)
G (Lmax)	2535 (99 7/8)	2812 (110 3/4)	3092 (121 3/4)	3371 (132 3/4)	3649 (143 3/4)	4204 (165 5/8)	5057 (199 1/8)	5907 (232 5/8)	6477 (255 1/8)	7890 (310 3/4)
H (Lfront)	1864 (73 1/2)	2141 (84 3/8)	2421 (95 3/8)	2700 (106 3/8)	2978 (117 3/8)	3533 (139 1/8)	4386 (172 3/4)	5236 (206 1/4)	5806 (228 5/8)	7219 (284 1/4)

a) Sony VPS-100FH
b) Sony VPS-100FM
c) Sony VPS-120FH and VPS-120FM

Connection Examples

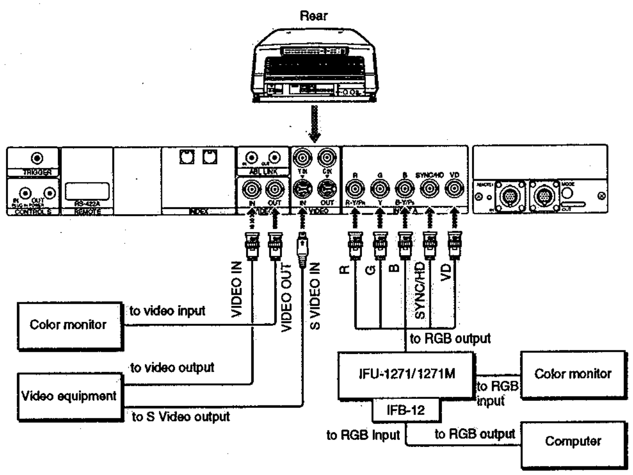
When making connections:
- Before connecting any cables, make sure that each piece of equipment to be connected is turned off.
- Use cables appropriate for the equipment to be connected.
- A loose connection may cause hum or noise.
- When disconnecting a cable, pull it out by the plug; not the cable itself.
- Also refer to the instruction manual of the equipment to be connected.

Connecting a BNC connector:


② Twist to the right.
① Align the pins with the pin holes and push the plug into the socket.

Connecting Directly to the Projector

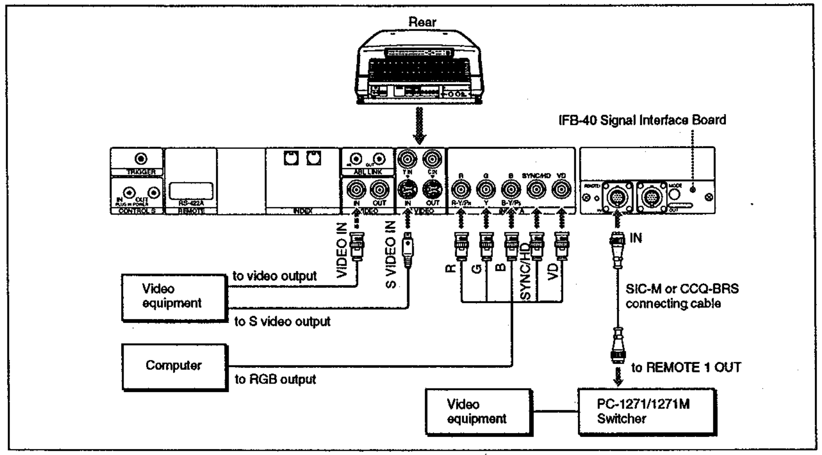
Use the IFU-1271/1271M Signal Interface Unit.


Rear
VIDEO IN
VIDEO OUT
S VIDEO IN
R
G
B
SYNC/HD
VD
Color monitor
to video input
Video equipment
to video output
to S Video output
to RGB output
IFU-1271/1271M
IFB-12
to RGB input
to RGB Input
to RGB output
Color monitor
Computer

Setting up
- Set INPUT-A in the SET SETTING menu to RGB.
  For details, see "The SET SETTING Menu" on page 31 (EN).
- Select VIDEO or S VIDEO by pressing the INPUT SELECT keys on the remote control or by setting VIDEO in the INPUT SELECT menu.
  For details, see "The INPUT SELECT Menu" on page 25 (EN).

Using the Signal Interface Switcher

When you connect the PC-1271/1271M Signal Interface Switcher (not supplied) to the IFB-40 Signal Interface Board (installed on the projector by default), you can connect easily various input sources.



Choose the appropriate cable from the following table.

1 m	2 m	5 m	10 m	15 m	25 m	50 m
—	CCQ-2BRS	CCQ-5BRS	CCQ-10BRS	—	CCQ-25BRS	CCQ-50BRS
SIC-M-1	—	SIC-M-5	—	SIC-M-15	SIC-M-25	SIC-M-50

Notes

- Insert the female and male plugs of the SIC-M or CCQ-BRS cable correctly.
- You can extend the SIC-M or CCQ-BRS cable up to 50 m.
- The video signal input to the signal interface board installed to the INPUT B section should not exceed 70 MHz. When projecting the video signal which exceeds 70 MHz, connect the signal source to the INPUT A connectors using the 5BNC cables.

Setting up

- Set INPUT-A in the SET SETTING menu to RGB.
  For details, see "The SET SETTING Menu" on page 31 (EN).
- Select VIDEO or S VIDEO by pressing the INPUT SELECT keys on the remote control or by setting VIDEO in the INPUT SELECT menu.
  For details, see "The INPUT SELECT Menu" on page 25 (EN).
- Set the SINGLE/SECOND/OTHER select switch on the switcher to SINGLE.

Troubleshooting

If the projector appears to be operating erratically, try to diagnose and correct the problem using the following guide. If the problem still persists, consult with qualified Sony personnel.

Symptom	Cause	Remedy
The power does not turn on.	The MAIN POWER switch is turned off.	Press the MAIN POWER switch on the projector *(see page 17 (EN)).*
The power turns on and immediately turns off.	There may be an internal problem.	Check the error code in the error code window on the rear of the projector and consult with qualified personnel.
Picture does not appear.	If no menu appears, external signal and/ or sync is not input correctly.	Check the input signal and sync in the INPUT INFO menu and connect them correctly *(see page 34 (EN)).*
	If menu appears with no input, sync connection is not correct.	Check SYNC SEL in the INPUT SETTING menu and connect the sync correctly, if necessary *(see page 29 (EN)).*
	If no menu appears with no input, there may be an internal problem.	Consult with qualified personnel.
Picture is too dark.	Contrast is set to minimum.	Adjust the contrast with the CONTR + key *(see page 19 (EN)).*
	Clamp setting is not correct.	Change the clamp setting in the INPUT SETTING menu *(see page 28 (EN)).*
Picture is distorted.	The input signal is not selected correctly.	Select a correct signal in the INPUT A or INPUT B option in the SET SETTING menu *(see page 31 (EN)).*

1-2. INSTRUCTION MANUAL FOR DEALERS

Installation Procedures

By default, this projector is adjusted for 120-inch front projection on the floor/desk. If you install the projector in other conditions, you have to change some settings. Therefore, installation procedures depend on the screen size or type, and installation method.

① Verify the conditions of installation, such as angle of optical axis, projection distance, height of the projector and screen.

↓

② Change the polarity according to the projection patterns. *(page 19 (EN))*

↓

③ Install the projector and screen. *(page 9 (EN))*

↓

④ Reset the registration data to factory setting. *(page 101 (EN))*

↓

⑤ Adjust the CRT conversion angle. *(page 22 (EN))*

↓

⑥ Adjust the lens focus and flapping of the lens. *(page 62 (EN))*

↓

⑦ Adjust the registrations. *(page 68 (EN))*

↓

⑧ Connect other equipment. *(page 26 (EN))*

↓

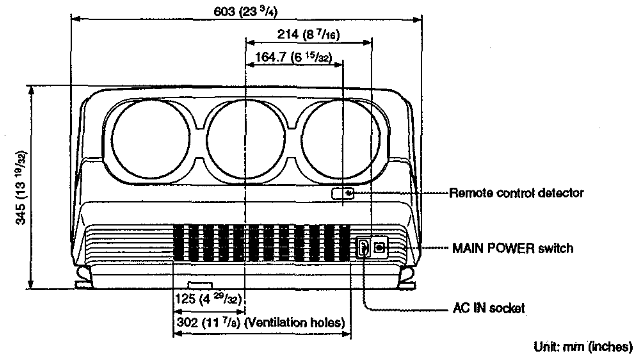
⑨ Adjust each input signal. *(pages 91 (EN) to 97 (EN))*
- Fine adjustment for the registrations. *(pages 91 (EN) and 94 (EN))*
- Adjust the size or shift of the picture. *(pages 92 (EN), 94 (EN) and 95 (EN))*
- Adjust the blanking. *(pages 93 (EN) and 95 (EN))*

Installation Diagrams

Necessary Clearance for Installation and Maintenance

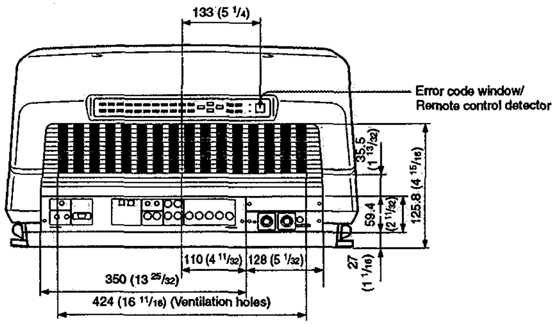
Make sure to provide enough room for maintenance service. Install the projector, making reference to the dimensions below.
There should be a space of at least 30 cm (1 $^3/_{16}$ inches) around the ventilation holes. Never block the holes with any material.

Front


603 (23 3/4)
214 (8 7/16)
164.7 (6 15/32)
345 (13 19/32)
Remote control detector
MAIN POWER switch
AC IN socket
125 (4 29/32)
302 (11 7/8) (Ventilation holes)

Unit: mm (inches)

Rear


133 (5 1/4)
Error code window/
Remote control detector
35.5 (1 13/32)
59.4 (2 11/32)
125.8 (4 15/16)
27 (1 1/16)
110 (4 11/32)
128 (5 1/32)
350 (13 25/32)
424 (16 11/16) (Ventilation holes)

Unit: mm (inches)

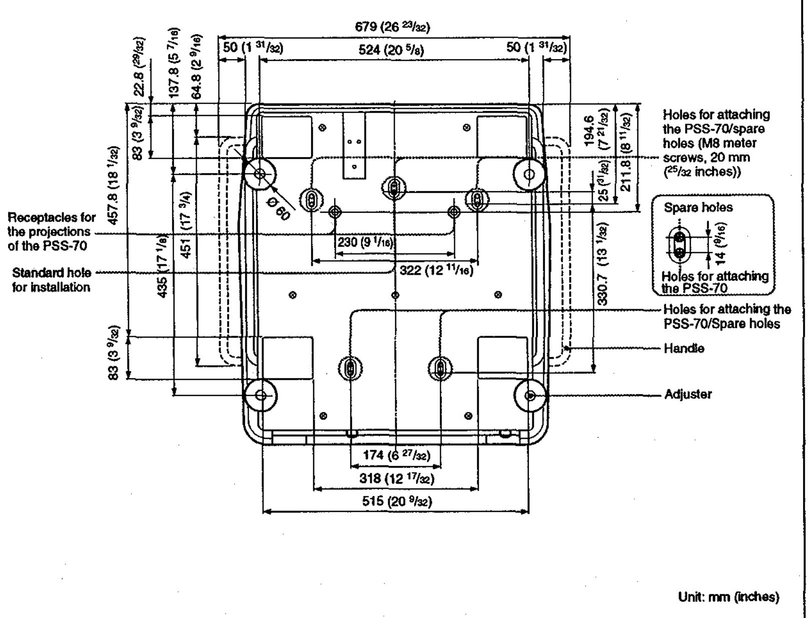
Installation Diagrams

Bottom

The standard hole for installation on the bottom surface is useful for reference when measuring for installation. There are seven holes on the bottom surface of the projector. For ceiling installation using the optional PSS-70 Projector Suspension Support, use five holes to attach the PSS-70. The other two holes are spare ones.

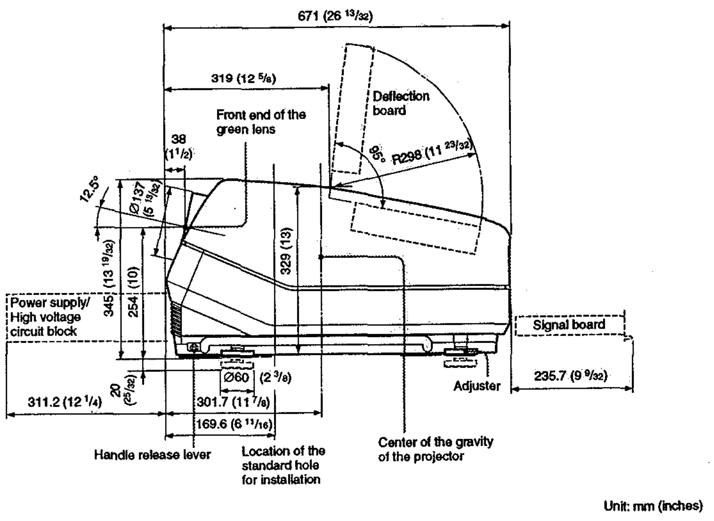
Notes

- Use only the M8 meter screws of 10 mm (13/32 inches) to 30 mm (1 3/16 inches) long for the attachment holes for the PSS-70.
- When attaching the PSS-70, use the M8 meter screws of 20 mm (25/32 inches) supplied with the PSS-70.



679 (26 23/32)
50 (1 31/32)
524 (20 5/8)
50 (1 31/32)
22.8 (29/32)
137.8 (5 7/16)
64.8 (2 9/16)
83 (3 9/32)
457.8 (18 1/32)
451 (17 3/4)
435 (17 1/8)
83 (3 9/32)
Ø60
230 (9 1/16)
322 (12 11/16)
194.6 (7 21/32)
25 (31/32)
211.8 (8 11/32)
330.7 (13 1/32)
174 (6 27/32)
318 (12 17/32)
515 (20 9/32)
Receptacles for the projections of the PSS-70
Standard hole for installation
Holes for attaching the PSS-70/spare holes (M8 meter screws, 20 mm (25/32 inches))
Spare holes
14 (9/16)
Holes for attaching the PSS-70
Holes for attaching the PSS-70/Spare holes
Handle
Adjuster
Unit: mm (inches)

Side



671 (26 13/32)
319 (12 5/8)
Front end of the green lens
38 (1 1/2)
Deflection board
95°
R298 (11 23/32)
12.5°
Ø137 (5 13/32)
345 (13 19/32)
254 (10)
329 (13)
Power supply/ High voltage circuit block
Signal board
20 (25/32)
Ø60 (2 3/8)
301.7 (11 7/8)
169.6 (6 11/16)
311.2 (12 1/4)
Adjuster
235.7 (9 9/32)
Handle release lever
Location of the standard hole for installation
Center of the gravity of the projector
Unit: mm (inches)

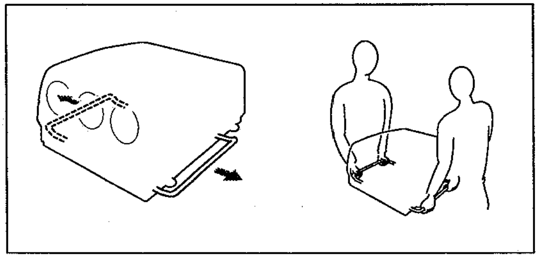
Installation Diagrams

Using the Handles to Carry the Projector

You can carry the projector by using the side (right and left) handles.

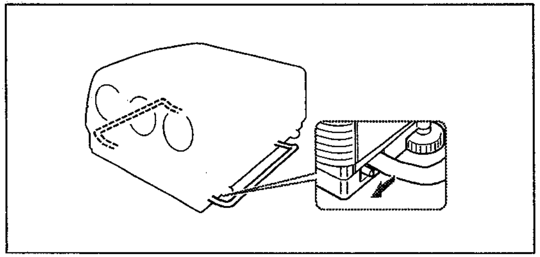
Using the handles

Pull out the side handles.



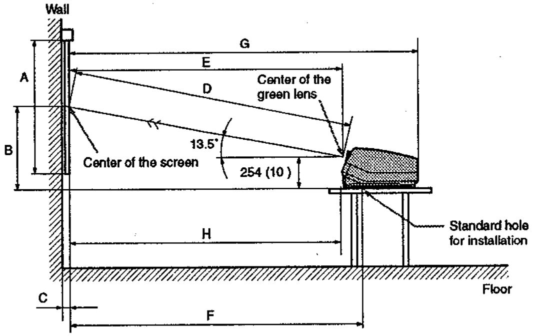
Putting away the handles

Pull the handle release lever under each handle towards you. The handle is automatically retracted.



Floor Installation Using Front Projection Flat Screen

Be sure that the projector is level to the floor.



B: Difference in height between the projector's bottom surface and the center of the screen
E: Horizontal distance between the center of the screen and the center of the green lens
F: Horizontal distance between the center of the screen and the standard hole for installation

Tolerances
B: ±5%
Other measurements: 0% to +5%

The distances in gray are the factory preset settings. Unit:mm (inches)

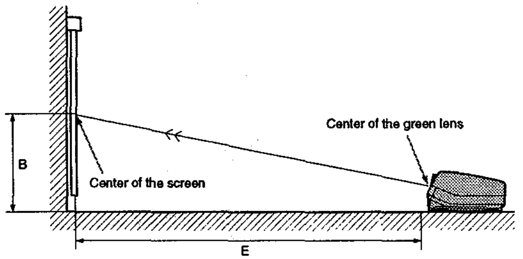
Screen size (inches)	60	70	80	90	100	120	150	180	200	250
A (Vsize)	914 (36)	1067 (42)	1219 (48)	1372 (54)	1524 (60)	1829 (72)	2286 (90)	2743 (108)	3048 (120)	3810 (150)
B (Hcent)	710 (28)	777 (30 5/8)	845 (33 3/8)	912 (36)	980 (38 5/8)	1114 (43 7/8)	1320 (52)	1526 (60 1/8)	1662 (65 1/2)	2005 (79)
C (Width)					28[a] 32[b] (1 1/8) (1 5/16)	32[c] (1 5/16)				
D (TD)	1956 (77)	2240 (88 1/4)	2529 (99 5/8)	2816 (110 7/8)	3102 (122 1/4)	3673 (144 5/8)	4551 (179 1/4)	5425 (213 5/8)	6012 (236 3/4)	7466 (294)
E (Xlens)	1902 (74 7/8)	2179 (85 7/8)	2459 (96 7/8)	2738 (107 7/8)	3016 (118 7/8)	3571 (140 5/8)	4424 (174 1/4)	5274 (207 5/8)	5844 (230 1/8)	7257 (285 3/4)
F (Lhole)	2033 (80 1/8)	2310 (91)	2591 (102)	2869 (113)	3148 (124)	3703 (145 7/8)	4556 (179 3/8)	5405 (212 7/8)	5976 (235 3/8)	7389 (291)
G (Lmax)	2535 (99 7/8)	2812 (110 3/4)	3092 (121 3/4)	3371 (132 3/4)	3649 (143 3/4)	4204 (165 5/8)	5057 (199 1/8)	5907 (232 5/8)	6477 (255 1/8)	7890 (310 3/4)
H (Lfront)	1864 (73 1/2)	2141 (84 3/8)	2421 (95 3/8)	2700 (106 3/8)	2978 (117 3/8)	3533 (139 1/8)	4386 (172 3/4)	5236 (206 1/4)	5806 (228 5/8)	7219 (284 1/4)

a) Sony VPS-100FH
b) Sony VPS-100FM
c) Sony VPS-120FH and VPS-120FM

When the Screen Size is not Mentioned in the Tables

You can calculate the installation measurements described below when you use the screen whose size is not mentioned in the tables on pages 9 (EN) and 11 (EN).

Check your installation conditions:
- Screen size to be used (S)
- Installation measurements at the end of the manual, EL and BL for larger screen size and ES and BS for smaller screen size
  See the tables on pages 116 (EN) to 120 (EN).



E: Projection distance
B: Screen heights

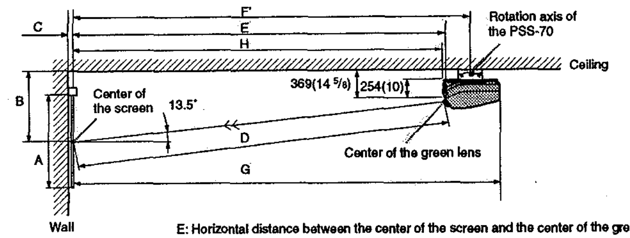
Now you can calculate the installation measurements as follows:
E (mm) = ES + ((S – smaller screen size) × (EL – ES) × 0.1)
B (mm) = BS + ((S – smaller screen size) × (BL – BS) × 0.1) + 254

Example: when using 124-inch screen

According to the tables on pages 117 (EN) and 118 (EN), the values E and B are as follows:
ES = 3571, BS = 860 (As the smaller screen size is 120 inch.)
EL = 3856, BL = 929 (As the smaller screen size is 130 inch.)
Therefore,
E (mm) = 3571 + ((124 –120) × (3856 – 3571) × 0.1) = 3685 (mm)
B (mm) = 860 + ((124 – 120) × (929 – 860) × 0.1) + 254 = 1142 (mm)

Ceiling Installation Using Front Projection Flat Screen

Use the PSS-70 Projector Suspension Support (not supplied).



E: Horizontal distance between the center of the screen and the center of the green lens

Tolerances
B: ±5%
Other measurements: 0% to +5%

The distances in gray are the factory preset settings. Unit:mm (inches)

Screen size (inches)	60	70	80	90	100	120	150	180	200	250
A (Vsize)	914 (36)	1067 (42)	1219 (48)	1372 (54)	1524 (60)	1829 (72)	2286 (90)	2743 (108)	3048 (120)	3810 (150)
B (Hcent)	825 (32 1/2)	892 (35 1/8)	960 (37 7/8)	1027 (40 1/2)	1094 (43 1/8)	1229 (48 3/8)	1435 (56 1/2)	1640 (64 5/8)	1777 (70)	2120 (83 1/2)
C (Width)					28[a] 32[b] (1 1/8) (1 5/16)	32[c] (1 5/16)				
D (TD)	1956 (77)	2240 (88 1/4)	2529 (99 5/8)	2816 (110 7/8)	3102 (122 1/4)	3673 (144 5/8)	4551 (179 1/4)	5425 (213 5/8)	6012 (236 3/4)	7466 (294)
E (Xlens)	1902 (74 7/8)	2179 (85 7/8)	2459 (96 7/8)	2738 (107 7/8)	3016 (118 7/8)	3571 (140 5/8)	4424 (174 1/4)	5274 (207 5/8)	5844 (230 1/8)	7257 (285 3/4)
F' (Lpss)	2166 (85 3/8)	2442 (96 1/4)	2723 (107 1/4)	3001 (118 1/4)	3280 (129 1/4)	3835 (151)	4688 (184 5/8)	5537 (218 1/8)	6108 (240 1/2)	7521 (296 1/8)
G (Lmax)	2535 (99 7/8)	2812 (110 3/4)	3092 (121 3/4)	3371 (132 3/4)	3649 (143 3/4)	4204 (165 5/8)	5057 (199 1/8)	5907 (232 5/8)	6477 (255 1/8)	7890 (310 3/4)
H (Lfront)	1864 (73 1/2)	2141 (84 3/8)	2421 (95 3/8)	2700 (106 3/8)	2978 (117 3/8)	3533 (139 1/8)	4386 (172 3/4)	5236 (206 1/4)	5806 (228 5/8)	7219 (284 1/4)

a) Sony VPS-100FH
b) Sony VPS-100FM
c) Sony VPS-120FH and VPS-120FM

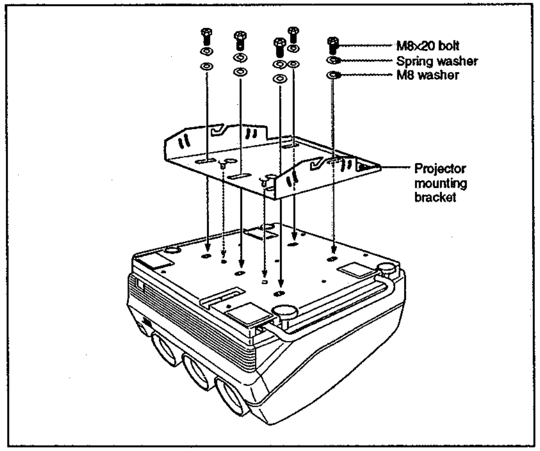
Necessary parts modifications

Changing the polarity used for "Ceiling installation, front projection"
For details, see "Changing the Polarity" on page 19 (EN).

Attaching the PSS-70 Projector Suspension Support

Attach the projector mounting bracket to the bottom surface of the projector.
Use five each of the M8×20 bolts, M8 washers and spring washers, all of which are supplied with the PSS-70.

1. Align the two projections on the projector mounting bracket with the receptacles on the bottom surface of the projector.
2. Fasten the five bolts and washers to fix the mounting bracket to the five holes for attaching the PSS-70 on the bottom surface of the projector.



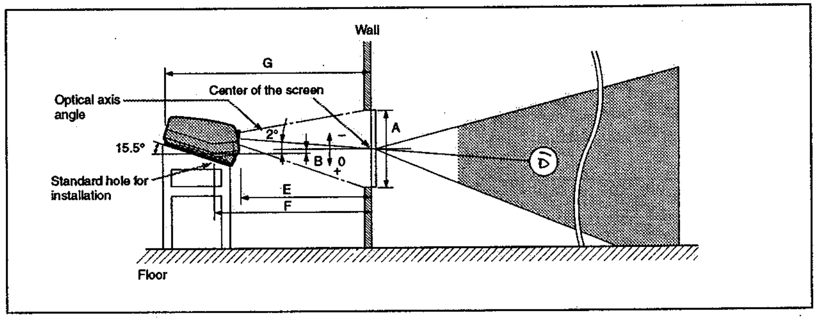
For attaching the PSS-70 to the ceiling, refer to the Installation Manual of the PSS-70 Projector Suspension Support.

Floor Installation Using Rear Projection Flat Screen

What is the optical axis angle?

The optical axis angle is the angle between the horizontal level line and the straight line from the center of the projector's green lens to the center of the screen. When using a rear projection screen, you can get the brightest picture when the center of the screen is aligned with a straight line extension of the center of the green lens.
Therefore, the most suitable optical axis angle varies depending on the height of the screen and your line of sight.

When the optical axis angle is 2°



The distances in gray are the factory preset settings. Unit: mm (inches)

Screen size (inches)	60	70	80	90	100	120	150	180	200	250
A (Vsize)	914 (36)	1067 (42)	1219 (48)	1372 (54)	1524 (60)	1829 (72)	2286 (90)	2743 (108)	3048 (120)	3810 (150)
B (Hcent)	140 (5 5/8)	130 (5 1/4)	120 (4 3/4)	110 (4 3/8)	100 (4)	80 (3 1/4)	49 (1 15/16)	18 (23/32)	-3 (-1/8)	-54 (-2 1/8)
E (Xlens)	1977 (77 7/8)	2265 (89 1/4)	2556 (100 3/4)	2846 (112 1/8)	3136 (123 1/2)	3712 (146 1/4)	4599 (181 1/8)	5482 (215 7/8)	6075 (239 1/4)	7544 (297 1/8)
F (Lhole)	2172 (85 5/8)	2460 (96 7/8)	2751 (108 3/8)	3041 (119 3/4)	3331 (131 1/8)	3907 (153 7/8)	4794 (188 3/4)	5677 (223 5/8)	6270 (246 7/8)	7739 (304 3/4)
G (Lmax)	2655 (104 5/8)	2943 (115 7/8)	3234 (127 3/8)	3524 (138 3/4)	3814 (150 1/4)	4390 (172 7/8)	5277 (207 7/8)	6160 (242 5/8)	6753 (265 7/8)	8222 (323 3/4)

Necessary parts modifications

Changing the polarity used for "Floor installation, rear projection"
For details, see "Changing the Polarity" on page 19 (EN).

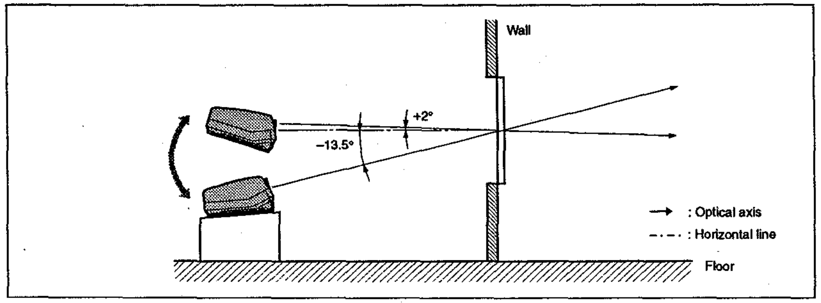
Installation Diagrams

Variable Range of the Optical Axis Angle in Rear Projection

You can change the optical axis angle within the following ranges by adjusting flapping of the lens.
For adjusting flapping of the lens, see "Adjusting flapping of the green lens" on page 64 (EN).

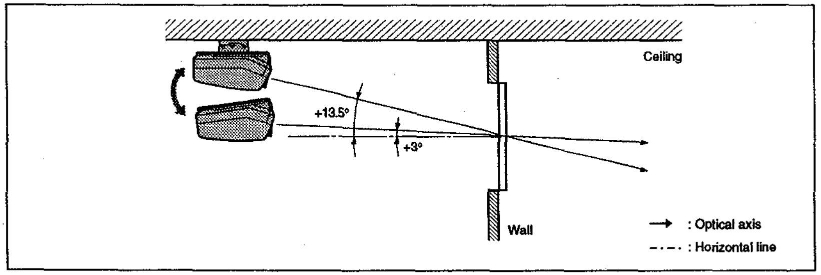
On floor installation

You can install the projector within an angle of optical axis –13.5° to +2°.



On ceiling installation

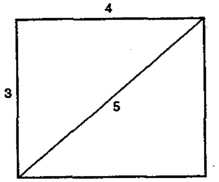
You can install the projector within an angle of optical axis +3° to +13.5°



Notes on Screen

Screen size

The screen size is the diagonal length of the screen in inches, while the aspect ratio of the screen is 3:4. The ratio of the screen height, width, and diagonal is 3:4:5.



If you use a screen with 3:4 aspect ratio whose size is not given in the table below, you can calculate the screen height and width from the screen size (inches) as follows.
Calculate at the conversion rate of 25.4 mm to the inch.

Height (mm) = Screen size × 25.4 × $^3/_5$
Width (mm) = Screen size × 25.4 × $^4/_5$

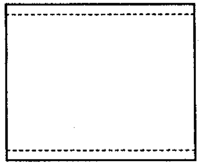
Screen size and dimensions

Screen size (inches) (Diagonal)	Height (mm)	Width (mm)
60	914	1219
70	1067	1422
80	1219	1626
90	1372	1829
100	1524	2032
120	1829	2438
150	2286	3048
180	2743	3658
200	3048	4064
250	3810	5080

Screens with an aspect ratio other than 3:4

When the height is greater

Calculate the screen size with 3:4 aspect ratio from the screen height as shown below. Install the projector and screen in accordance with the screen size obtained.



--- : Screen whose aspect ratio is 3:4

Screen size (inch) = (height (mm) × $^5/_3$) × $^1/_{25.4}$
Example: When the screen height is 1500 mm
(1500 (mm) × $^5/_3$) × $^1/_{25.4}$ = Approx. 98 inches

When the width is greater

Calculate the screen size with 3:4 aspect ratio from the screen width as shown below. Install the projector and screen in accordance with the screen size obtained.

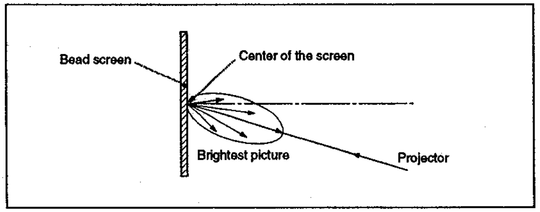
---: Screen whose aspect ratio is 3:4

Screen size (inch) = (width (mm) × $^5/_4$) × $^1/_{25.4}$
Example: When the screen width is 2000 mm
(2000 (mm) × $^5/_4$) × $^1/_{25.4}$ = Approx. 98 inches

Types of screen

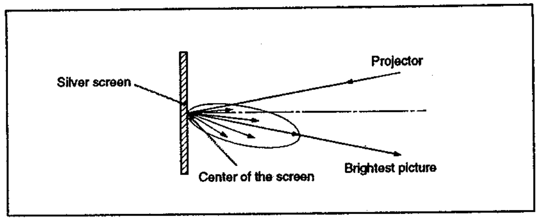
Front projection screen for floor installation

The bead screen is recommended. A screen of this type reflects the brightest light.


Bead screen
Center of the screen
Brightest picture
Projector

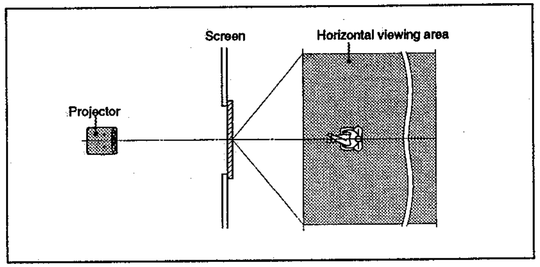
Front projection screen for ceiling installation

The silver screen is recommended. You can get a picture that is two to four times brighter than that of the white screens.


Silver screen
Projector
Center of the screen
Brightest picture

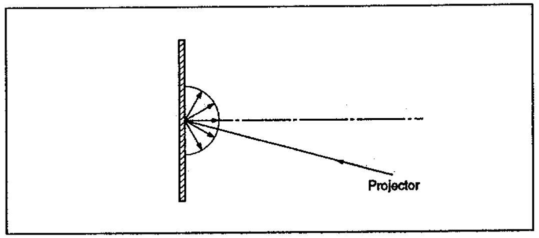
Rear projection screen

A screen manufactured using two sheets, the fresnel and lenticular, is recommended for a bright and clear full-screen picture projection.


Screen
Horizontal viewing area
Projector

White screen

When viewers watch the projected picture in a wide area, you can obtain a picture that appears equally bright from all parts of the room using the white screen for both floor and ceiling installations. Note that you will not be able to get a clear picture in this case unless the room is dark.

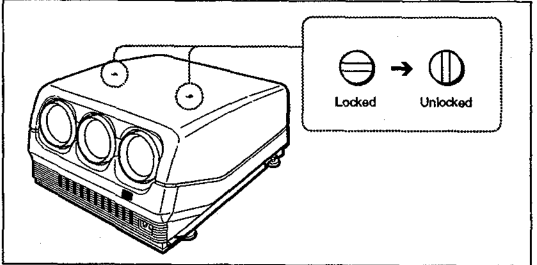


Modifying Parts

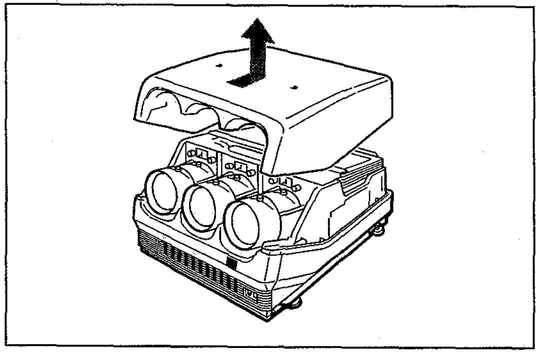
Removing the Upper Cover

1 Turn off the main power of the projector.

2 Unlock the two screws on the projector by using a screwdriver or a coin edge, and then open the upper cover.


Locked
Unlocked

3 Slide the upper cover towards the rear and lift it to remove.



Changing the Polarity

The polarity of the projector is adjusted to use the projector for front projection on the floor.
When the projector is installed on the ceiling or used in rear projection, it is necessary to change the settings of the polarity switch and the polarity connectors.

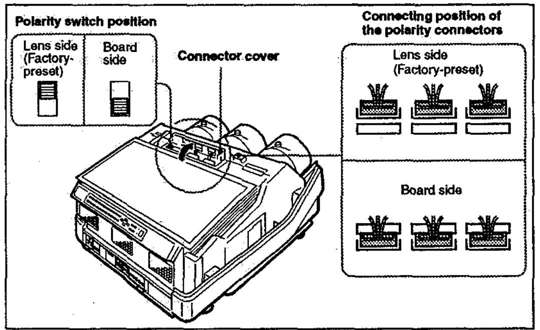
How to change the polarity

1 Turn off the power of the projector.

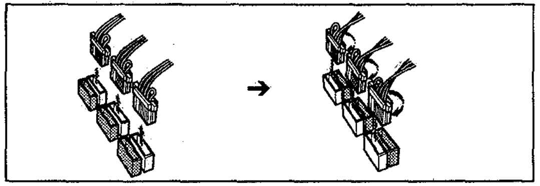
2 Remove the upper cover.
For how to remove the upper cover, see page 18 (EN).

3 Press to open the connector cover.

4 Check the polarity switch position and the connecting position of the polarity connectors.
For the installation methods of the projector and the settings of the switch and the connectors, see the diagram on the next page.


Polarity switch position
Lens side (Factory-preset)
Board side
Connector cover
Connecting position of the polarity connectors
Lens side (Factory-preset)
Board side

5 Change the switch position and/or the connecting position of the connectors, if necessary.
Polarity switch: Set to the lens side or board side position.
Polarity connectors: Disconnect the three connectors, then turn them over (180°) and reinsert into the receptacles on the lens side or the board side.



(continued)

6 Make sure to insert the connectors correctly and to set the switch to the correct position, then restore the connector cover and the upper cover.

Note

If the connector cover does not shut firmly, the power of the projector is not turned on.

Installation methods and settings of the polarity switch and the polarity connectors

Installation methods	Position of the switch	Connecting position of the connectors	On-screen display by default (See the next page.)
Front projection, floor	L	L	Correct
Front projection, ceiling	B	B	C
Rear projection, floor	L	B	A
Rear projection, ceiling	B	L	B
Others	Display letters on the screen so that you can determine which changes to make. *For on-screen display and necessary changes, see the next page.*		

L: Lens side
B: Board side

Note

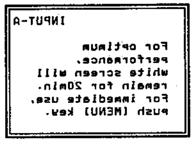
When installing the projector, make sure to leave space of more than 30 cm (12 inches) between the wall or floor and the ventilation holes of the projector.

Polarity and on-screen display

When the projector is installed on the ceiling or used in rear projection without changing the polarity, one of the following on-screen displays appears. In this case, you have to change the polarity corresponding to the installation methods.

A The letters are backward.

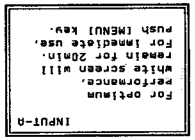
Change the connecting position of the polarity connectors.



INPUT-A
For optimum performance, white screen will remain for 20min. For immediate use, push [MENU] key.

B The letters are upside down.

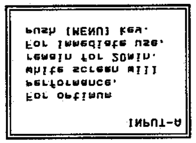
Change the polarity switch position.



For optimum performance, white screen will remain for 20min. For immediate use, push [MENU] key.
INPUT-A

C The letters are upside down and backward.

Change the polarity switch position and the connecting position of the polarity connectors.



For optimum performance, white screen will remain for 20min. For immediate use, push [MENU] key.
INPUT-A

Adjusting the CRT Conversion Angle

Adjust the CRT conversion angle so that the three CRT images converge exactly.

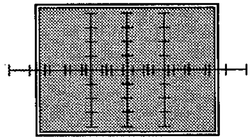
1 Remove the upper cover.
For how to remove the upper cover, see page 18 (EN).

2 Turn on the power of the projector.

3 Set the remote control to the serviceman adjustment mode.
For details, see "Preparation" on page 37 (EN).

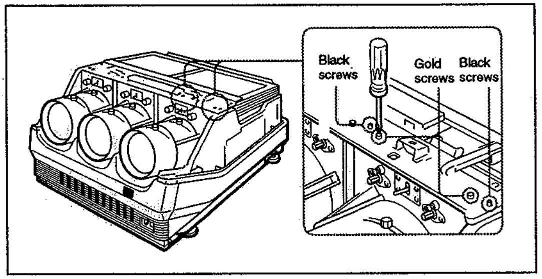
4 Reset the green, red and blue centering.
For details, see "Resetting the Data" on page 100 (EN).

5 Make sure that the on-screen display is shown as follows:
- The center of the green HATCH pattern aligns with the horizontal center of the screen.
- The center of the red and blue HATCH patterns align at even intervals from the green HATCH pattern.



If the center of the green HATCH pattern does not align with the center of the screen, re-install the projector correctly.

6 Loosen the four red CRT fixing screws (two black and two gold) by using the Philips screwdriver. Make sure not to remove the screws.

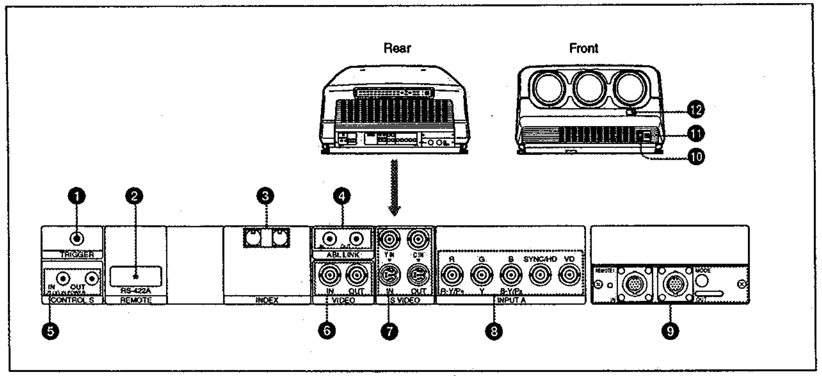


7 Move the red lens right and left to adjust the CRT conversion angle so that the vertical line of the red HATCH pattern converges with that of the green pattern.

8 When the HATCH pattern aligns with the green pattern correctly, tighten the four CRT fixing screws loosened in step **6**.

9 Repeat steps **6** to **8** to loosen the four blue CRT fixing screws (two black and two gold), adjust the blue CRT conversion angle and tighten the four CRT fixing screws.

Location and Function of Connectors



Rear

① TRIGGER connector (minijack)
When the projector is turned on, 5 V is output and when it is turned off, 0 V is output. However, the connector is not used as the power source since the power is not output.

② RS-422A REMOTE connector (D-sub 9-pin)
Used to expand the system connections using the RS-422A interface.
Before using the connector, remove the red cap.

③ INDEX NO. switches
When multiple projectors are connected, set the index number of each projector.

Note
If you set the index number to "00", the projector does not operate.

④ ABL (Automatic Brightness Limiter) LINK IN/OUT jacks (minijack)
When connecting multiple projectors, connects the ABL LINK OUT jack to the ABL LINK IN jack on another projector. You can synchronize the brightness limiting point among the projectors, allowing to make the whole screen brightness uniform.

⑤ CONTROL S jacks
IN/PLUG IN POWER (5 V) jack (stereo minijack): Connects to the CONTROL S OUT jack of other Sony equipment. Also connects to the CONTROL S OUT jack of the supplied remote control with the supplied remote control cable (stereo cable) to be used as a wired remote control. In this case, this jack supplys 5 V to the remote control as power source.
OUT jack (stereo minijack): Connects to the CONTROL S IN jack of other Sony equipment.

Note
When using this jack, the remote control detector on the projector does not function.

⑥ VIDEO IN/OUT connectors
VIDEO IN connector (BNC type): Connects to the composite video output of the video equipment.
VIDEO OUT connector (BNC type): Connects to the composite video input of a color monitor.

⑦ S VIDEO IN/OUT connectors
Y IN, C IN connectors (BNC type): Connects to the Y and C video outputs of the video equipment.
S VIDEO IN/OUT connectors (4-pin, mini-DIN type): Connects to the S video output or input connector of the video equipment.

Note
The S VIDEO IN connector is disconnected when a cable is connected to the Y/C IN connectors.

⑧ INPUT A connectors (BNC type)
R/R-Y/PR, G/Y, B/B-Y/PB, SYNC/HD, VD connectors: Connect to the outputs of a computer or a video camera. According to the connected equipment, the RGB (R, G, B), component (R-Y, G, B-Y) or HDTV (PR, Y, PB) signal is selected.

⑨ Signal interface board attachment part (INPUT B)
The IFB-40 Signal Interface Board is installed by default. Other optional signal interface boards can be attached to this section instead of the IFB-40.
Indicator (red): Lights up when the input of the IFB-40 is selected.
REMOTE 1 IN connector (14-pin multi): When connecting two projectors, connect to the REMOTE 1 OUT connector on the IFB-40 installed to another projector.
REMOTE 1 OUT connector (14-pin multi): Connect to the REMOTE 1 IN connector on the IFB-40.
MODE selector: Turn the control switch of the MODE selector to the appropriate position according to the length of the cable connected to the REMOTE 1 OUT connector.

Cable length	up to 2 m	up to 10 m	up to 25 m	up to 50 m
Type of cable	SIC-M-1 CCQ-2BRS	SIC-M-5 CCQ-5BRS CCQ-10BRS	SIC-M-15 CCQ-25BRS SIC-M-25	SIC-M-50 CCQ-50BRS
Position	1	2	3	4

Front

⑩ AC IN socket
Connect the supplied AC power cord.

⑪ MAIN POWER switch

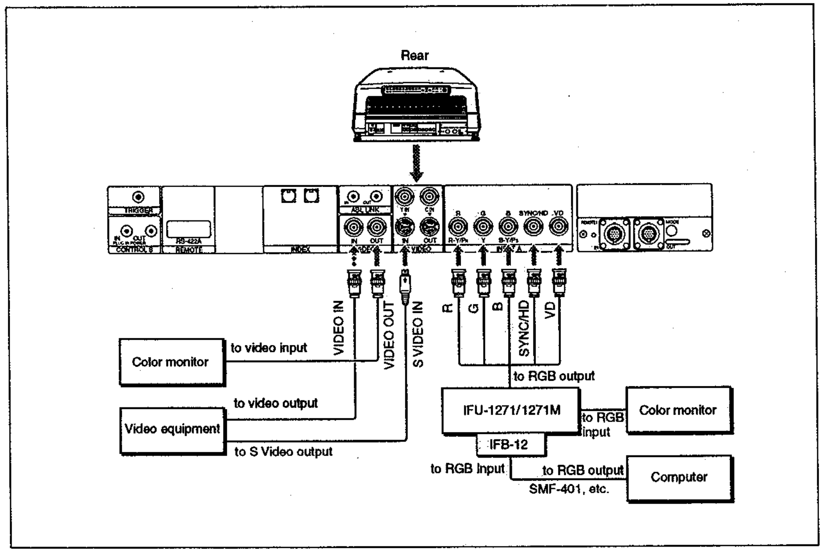
⑫ Front remote control detector

Connecting Directly to the Projector

You can expand the system connections by using the IFB-40 Signal Interface Board which is installed to the projector by default, or in combination shown in the examples below.

When multiple input sources are connected to the projector

Use the IFU-1271/1271M Signal Interface Unit.


Rear
Color monitor
to video input
Video equipment
to video output
to S Video output
VIDEO IN
VIDEO OUT
S VIDEO IN
R
G
B
SYNC/HD
VD
to RGB output
IFU-1271/1271M
IFB-12
to RGB input
Color monitor
to RGB input
to RGB output
SMF-401, etc.
Computer

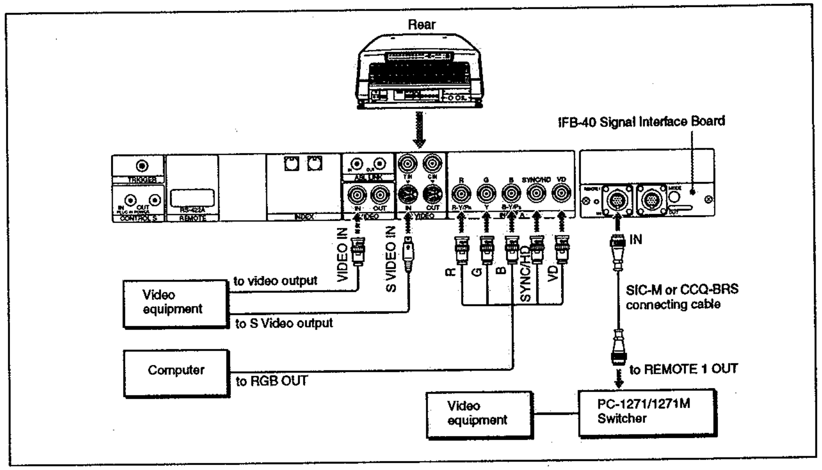
Setting up

- Set INPUT-A in the SET SETTING menu to RGB.
  For details, see "The SET SETTING Menu" on page 50 (EN).
- Select VIDEO or S VIDEO by pressing the INPUT SELECT keys on the remote control or by setting VIDEO in the INPUT SELECT menu.
  For details, see "The INPUT SELECT Menu" on page 44 (EN).

Using the Signal Interface Switcher

When you connect the PC-1271/1271M Signal Interface Switcher (not supplied) to the IFB-40 Signal Interface Board (installed on the projector by default), you can connect easily various input sources.
You can select up to 16 inputs by pressing the SWITCHER/INDEX keys on the remote control or by setting SWITCHER in the INPUT SELECT menu.

When the switcher is connected to the projector using the SIC-M or CCQ-BRS connecting cable


Rear
IFB-40 Signal Interface Board
VIDEO IN
S VIDEO IN
R
G
B
SYNC/HD
VD
IN
Video equipment
to video output
to S Video output
Computer
to RGB OUT
SIC-M or CCQ-BRS connecting cable
to REMOTE 1 OUT
Video equipment
PC-1271/1271M Switcher

Choose the appropriate cable from the following table.

1 m	2 m	5 m	10 m	15 m	25 m	50 m
—	CCQ-2BRS	CCQ-5BRS	CCQ-10BRS	—	CCQ-25BRS	CCQ-50BRS
SIC-M-1	—	SIC-M-5	—	SIC-M-15	SIC-M-25	SIC-M-50

Notes

- Insert the female and male plugs of the SIC-M or CCQ-BRS cable correctly.
- You can extend the SIC-M or CCQ-BRS cable up to 50 m.
- The video signal input to the signal interface board installed to the INPUT B section should not exceed 70 MHz. When projecting the video signal which exceeds 70 MHz, connect the signal source to the INPUT A connectors using the 5BNC cables.

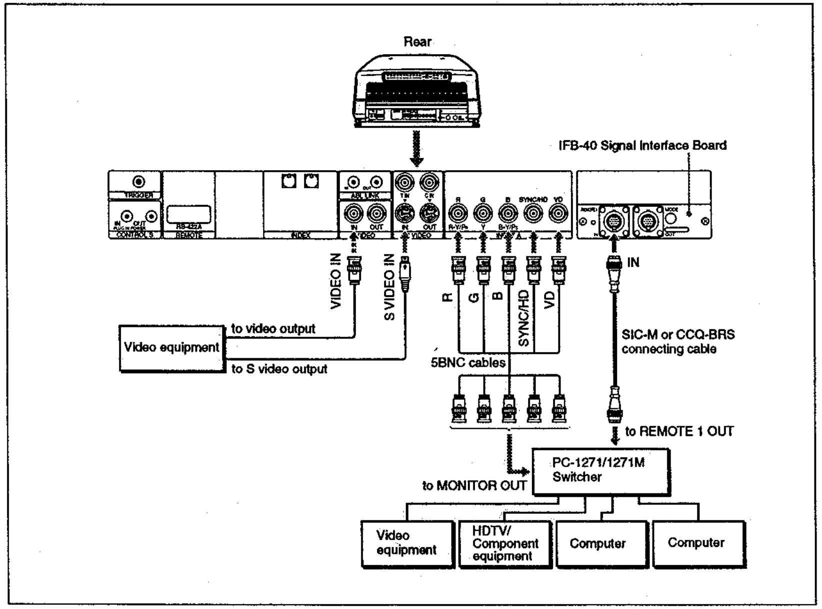
Setting up

- Set INPUT-A in the SET SETTING menu to RGB.
  For details, see "The SET SETTING Menu" on page 50 (EN).
- Select VIDEO or S VIDEO by pressing the INPUT SELECT keys on the remote control or by setting VIDEO in the INPUT SELECT menu.
  For details, see "The INPUT SELECT Menu" on page 44 (EN).
- Set the SINGLE/SECOND/OTHER select switch on the switcher to SINGLE.

Using the Signal Interface Switcher

When the switcher is connected to the projector using both the SIC-M or CCQ-BRS connecting cable and the 5BNC cables (5BNC mode 1)

When you connect both the video and RGB signal input sources to the switcher, use the SIC-M or CCQ-BRS connecting cable and the BNC cables for connection between the projector and switcher.


Rear
IFB-40 Signal Interface Board
VIDEO IN
S VIDEO IN
R
G
B
SYNC/HD
VD
IN
Video equipment
to video output
to S video output
5BNC cables
SIC-M or CCQ-BRS connecting cable
to REMOTE 1 OUT
to MONITOR OUT
PC-1271/1271M Switcher
Video equipment
HDTV/ Component equipment
Computer
Computer

Notes

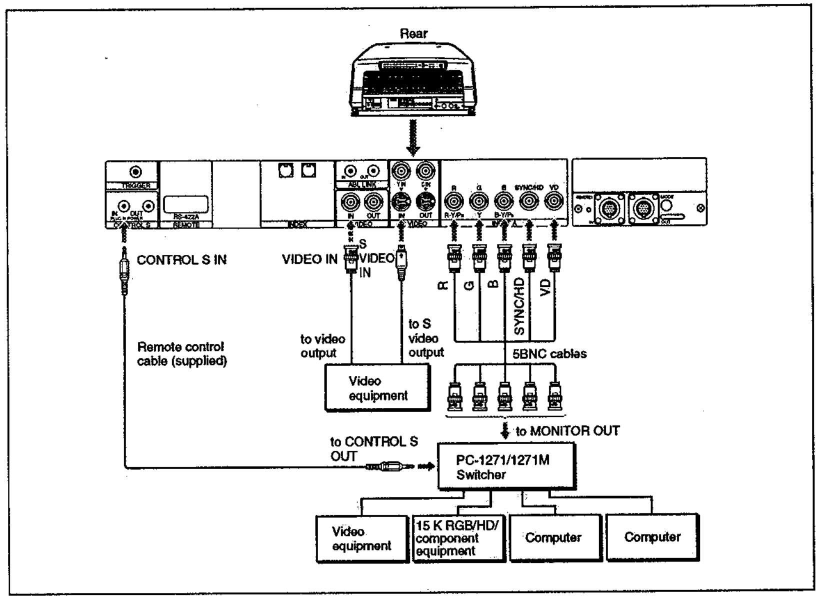
- Insert the female and male plugs of the SIC-M or CCQ-BRS cable correctly.
- You can extend the SIC-M or CCQ-BRS cable up to 50 m.
- The video signal input to the signal interface board installed to the INPUT B section should not exceed 70 MHz. When projecting the video signal which exceeds 70 MHz, connect the signal source to the INPUT A connectors using the 5BNC cables.

Setting up

- Set INPUT-A to RGB and 5BNC MODE to ON in the SET SETTING menu.
  For details, see "The SET SETTING Menu" on page 50 (EN).
- Select VIDEO or S VIDEO by pressing the INPUT SELECT keys on the remote control or by setting VIDEO in the INPUT SELECT menu.
  For details, see "The INPUT SELECT Menu" on page 44 (EN).
- Set the SINGLE/SECOND/OTHER select switch on the switcher to SINGLE.

When the switcher is connected to the projector using the 5BNC cables (5BNC mode 2)

When the switcher to be connected is more than 50 m away from the projector, or the SIC-M or CCQ-BRS cable cannot be used for the connection between the projector and switcher, connect the RGB signal sources to the switcher and the video signal sources to the projector.

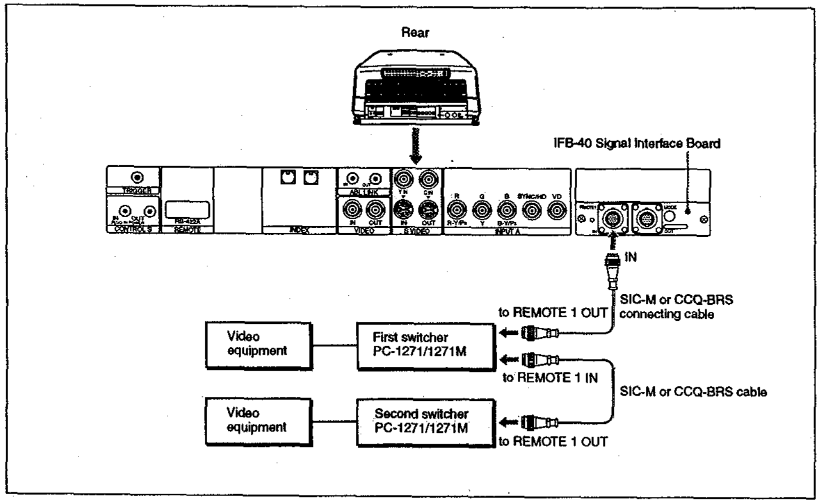

Rear
CONTROL S IN
VIDEO IN
S VIDEO IN
R
G
B
SYNC/HD
VD
Remote control cable (supplied)
to video output
to S video output
Video equipment
5BNC cables
to MONITOR OUT
to CONTROL S OUT
PC-1271/1271M Switcher
Video equipment
15 K RGB/HD/ component equipment
Computer
Computer

Setting up

- Set INPUT-A to RGB and 5BNC MODE to ON in the SET SETTING menu.
  For details, see "The SET SETTING Menu" on page 50 (EN).
- Select VIDEO or S VIDEO by pressing the INPUT SELECT keys on the remote control or by setting VIDEO in the INPUT SELECT menu.
  For details, see "The INPUT SELECT Menu" on page 44 (EN).
- Set the SINGLE/SECOND/OTHER select switch on the switcher to SINGLE.
- When the HDTV signal is input to the switcher, set the output of the connected equipment or the IFB-1301 Signal Interface Board installed to the switcher to GBR OUT.
- When the component signal is input to the switcher, set the output of the connected equipment or the IFB-1200 Signal Interface Board installed to the switcher to RGB OUT.

Using the Signal Interface Switcher

When two signal interface switchers are connected


Rear
IFB-40 Signal Interface Board
IN
to REMOTE 1 OUT
SIC-M or CCQ-BRS connecting cable
Video equipment
First switcher PC-1271/1271M
to REMOTE 1 IN
SIC-M or CCQ-BRS cable
Video equipment
Second switcher PC-1271/1271M
to REMOTE 1 OUT

Notes

- Insert the female and male plugs of the SIC-M or CCQ-BRS cable correctly.
- You can extend the SIC-M or CCQ-BRS cable between the projector and the switcher up to 50 m.
- The video signal input to the signal interface board installed to the INPUT B section should not exceed 70 MHz.

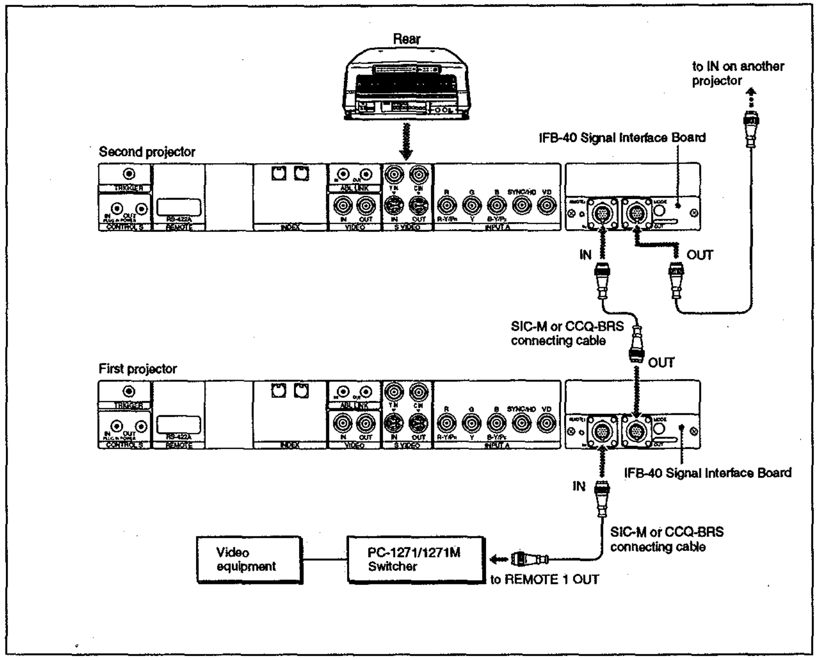
Setting up

- Set the SINGLE/SECOND/OTHER select switch on the first switcher to SINGLE.
- Set the SINGLE/SECOND/OTHER select switch on the second switcher to SECOND.

Connecting Multiple Projectors

When connecting multiple projectors, you can project the multi-screen picture.

When the projectors are connected using the SIC-M or CCQ-BRS cable


Rear
to IN on another projector
Second projector
IFB-40 Signal Interface Board
IN
OUT
SIC-M or CCQ-BRS connecting cable
OUT
First projector
IFB-40 Signal Interface Board
IN
SIC-M or CCQ-BRS connecting cable
Video equipment
PC-1271/1271M Switcher
to REMOTE 1 OUT

Notes

- Insert the female and male plugs of the SIC-M or CCQ-BRS cable correctly.
- You can extend the SIC-M or CCQ-BRS cable between the projector and the switcher up to 50 m.
- The video signal input to the signal interface board installed to the INPUT B section should not exceed 70 MHz.

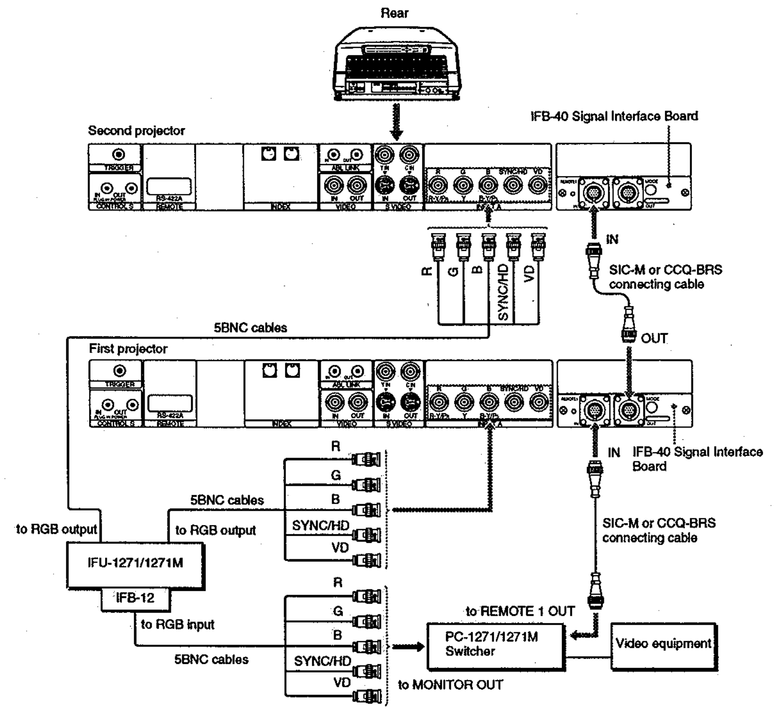
Setting up

- Set the SINGLE/SECOND/OTHER select switch on the switcher to SINGLE.
- To control the projectors using the index number, set the sequential number from 01 to 08 on each projector using the INDEX NO. switches on the rear panel.

Connecting Multiple Projectors

When the projectors are connected using both the SIC-M or CCQ-BRS cable and the 5BNC cables

When you connect both the video and RGB signal input sources to the switcher, connect each projector to the switcher using both the SIC-M or CCQ-BRS connecting cable and the 5BNC cables.
Use the IFU-1271/1271M Signal Interface Unit.


Rear
Second projector
IFB-40 Signal Interface Board
R
G
B
SYNC/HD
VD
IN
SIC-M or CCQ-BRS connecting cable
OUT
5BNC cables
First projector
IN
IFB-40 Signal Interface Board
R
G
B
SYNC/HD
VD
5BNC cables
to RGB output
to RGB output
IFU-1271/1271M
IFB-12
to RGB input
5BNC cables
R
G
B
SYNC/HD
VD
SIC-M or CCQ-BRS connecting cable
to REMOTE 1 OUT
PC-1271/1271M Switcher
Video equipment
to MONITOR OUT

Notes

- Insert the female and male plugs of the SIC-M or CCQ-BRS cable correctly.
- You can extend the SIC-M or CCQ-BRS cable between the switcher and the first projector up to 50 m.
- The video signal input to the signal interface board installed to the INPUT B section should not exceed 70 MHz. When projecting the video signal which exceeds 70 MHz, connect the signal source to the INPUT A connectors using the 5BNC cables.

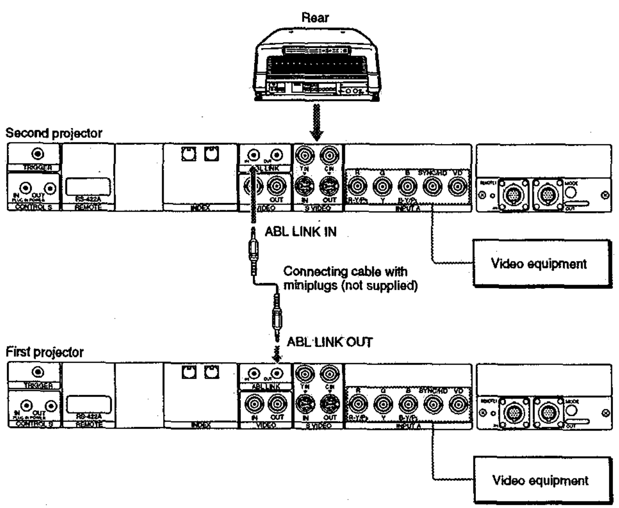
Setting up

- Set INPUT-A to RGB and 5BNC MODE to ON in the SET SETTING menu.
  For details, see "The SET SETTING Menu" on page 50 (EN).
- Set the SINGLE/SECOND/OTHER select switch on the switcher to SINGLE.
- To control the projectors using the index number, set the sequential number from 01 to 08 on each projector using the INDEX NO. switches on the rear panel.
- Set the MODE selector on the IFB-40 installed to the first projector to the appropriate position according to the length of the SIC-M or CCQ-BRS cable between the first and second projectors.
  For details, see "Location and Function of Connectors" on page 25 (EN).

Using the Linked ABL Function

What is linked ABL function?

The ABL (Automatic Brightness Limiter) function is incorporated with the projector. The ABL function prevents CRT burn by controlling the brightness of the screen if it becomes too high.
If you connect the ABL LINK jacks of each projector when connecting multiple projectors to display a malti-screen, the ABL functions on all projectors once the ABL functions on any one projector. The linked ABL function allows the malti-screen's brightness uniform.



Setting up

Set ABL LINK in the ABL LINK menu to ON.
For details, see "The ABL LINK Menu" on page 57 (EN).

Adjusting the ABL LINK

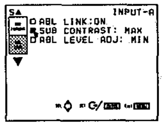
1 Set the remote control to the serviceman adjustment mode.
For details, see "Preparation" on page 37 (EN).

2 Set the CONTRAST levels of all projectors to the same level.

3 Adjust the brightness of each projector to make its black level uniform.

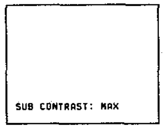
4 Input an external signal to display the 1/16 window pattern.

5 Display the ABL LINK menu, select SUB CONTRAST with the ⬆ or ⬇ key, then press the ENTER key.
For details, see "The ABL LINK Menu" on page 57 (EN).



```
SA▲                     INPUT-A
   ☐ ABL LINK:ON
   ■ SUB CONTRAST: MAX
   ☐ ABL LEVEL ADJ: MIN
 ▼
```

6 Press the ⬅ or ➡ key to adjust the projector so that the brightness looks the same as that of the darkest projector, then press the ENTER key.



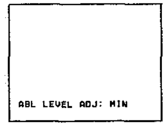
```
SUB CONTRAST: MAX
```

7 Repeat steps **4** to **6** on each projector so that the brightness of all projectors looks the same.

8 Input an external signal to display the all white pattern.

9 Select ABL LEVEL ADJ in the ABL LINK menu, then press the ENTER key.

10 Press the ⬅ or ➡ key to adjust the projector so that the brightness looks the same as that of the darkest projector, then press the ENTER key.



```
ABL LEVEL ADJ: MIN
```

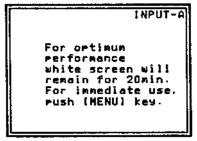
11 Repeat steps **8** to **10** on each projector so that the brightness of all projectors looks the same.

12 Set ABL LINK in the ABL LINK menu to ON, then press the ENTER key.
If the ABL functions on any one projector, the brightness of all projectors becomes uniform.

Adjustment Procedures

Warm-up before adjustment

Before adjusting the registration, make sure to turn on the projector and allow it to warm up for 20 minutes.
The projector is designed with a warm-up period of about 20 minutes after turning on the power. During this period, it displays a white screen with the message shown below. 35 seconds after the warm-up starts, the message will disappear temporarily and will appear subsequently for 5 seconds every 30 seconds.



```
                  INPUT-A

For optimum
performance
white screen will
remain for 20min.
For immediate use,
push [MENU] key.
```

Press the MENU key to cancel the warm-up, if you wish to see the picture immediately.
You may also set the projector for a shorter, longer or no warm-up period.
For details, see "Changing the Initialization Period" on page 114 (EN).

Adjustment procedures

Perform each adjustment with the supplied remote control before connecting to the external equipment. After the adjustment, save the data. Next, perform fine adjustment for each input signal connected to the projector.

Follow the procedure below.

① Prepare the remote control. *(page 37 (EN))*

↓

② Set the remote control to the serviceman adjustment mode. *(page 37 (EN))*

↓

③ Adjust roughly without input signal. *(pages 62 (EN) to 89 (EN))*

↓

④ Save the adjustment data as the standard data. *(page 90 (EN))*

↓

⑤ Adjust fine for each input signal. *(pages 91 (EN) to 97 (EN))*

↓

⑥ Activate the memory protection of the remote control. *(page 102 (EN))*

↓

⑦ Adjust the picture. *(page 103 (EN))*

For Remote Control

All adjustments, except focusing the lens and adjusting flapping of the lens, can be made with the supplied remote control.
Normally, the adjustment keys on the remote control are inoperable to prevent accidental adjustments. Cancel the protection before adjusting.
Since the remote control uses infrared, you can use it without a wire.
However, in order to correctly control the projector, you should connect the remote control to the projector with the supplied remote control cable.

Preparation

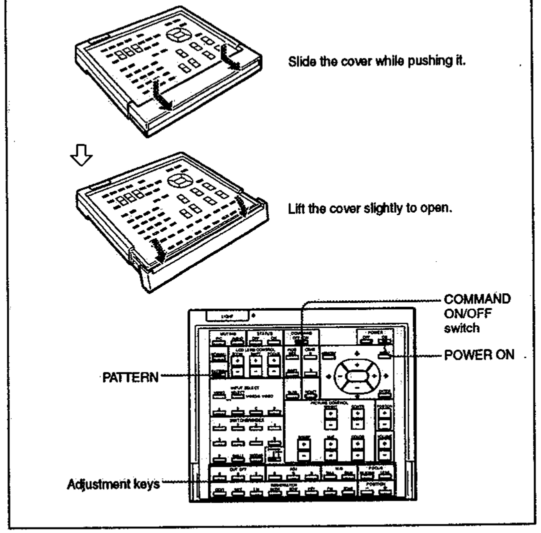
1 Insert three of the supplied AA size batteries (R6) with the polarities lined up correctly.
For details, see "Battery installation" on page 38 (EN).

2 Connect the remote control to the projector.
See "Connecting the remote control to the projector" on page 39 (EN).

3 Make sure that the COMMAND ON/OFF switch on the remote control is set to ON.

4 Turn on the MAIN POWER switch on the projector, and then press the POWER ON key on the remote control.

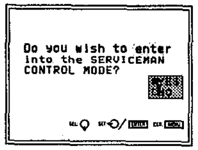
5 Open the panel cover of the adjustment keys.


Slide the cover while pushing it.
Lift the cover slightly to open.
COMMAND ON/OFF switch
POWER ON
PATTERN
Adjustment keys

For Remote Control

6 Press the keys in the following order:
ENTER → ENTER → ↑ → ↓ → ENTER

The following display appears.



Do you wish to enter
into the SERVICEMAN
CONTROL MODE?

7 Press the ↑ or ↓ key to select YES, then press the ENTER key.

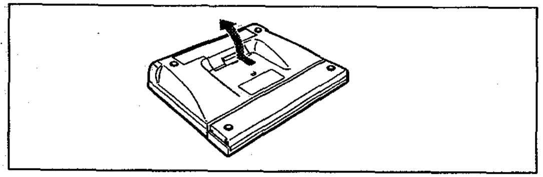
The protection on the adjustment keys is removed and the serviceman adjustment keys are enabled (serviceman adjustment mode).
After the adjustment, reactivate the protection.
For details, see "Protecting the Setting" on page 102 (EN).

Notes for wireless remote control operation

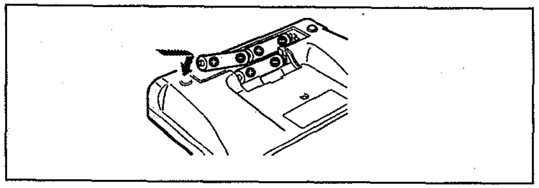
- Be sure that there are no obstructions between the remote control and the projector.
- Operating range is limited. The shorter the distance between the remote control and the projector, the wider the angle in which the remote control can control the projector.

Battery installation

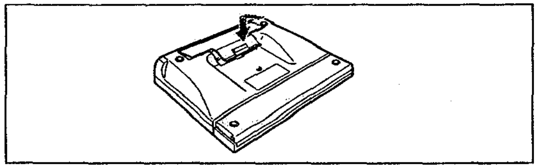
1 Push to open the lid.



2 Install three size AA (R6) batteries (supplied) with the correct polarity.



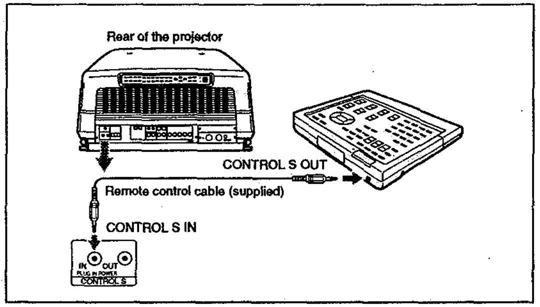
3 Replace the lid.



Notes on batteries

- If the projector does not operate properly, the batteries might be worn out. Replace all three of them with new ones.
- The life of the batteries depends on frequency of usage and how often you use the LIGHT button. If they are worn out quickly, replace them with new alkaline batteries.
- To avoid damage from possible battery leakage, remove the batteries when the remote control will not be used for a long time.

Connecting the remote control to the projector



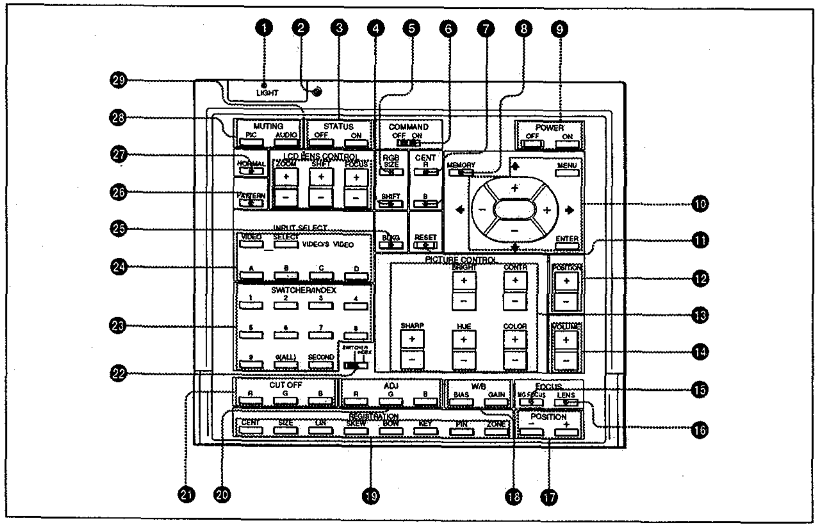
Note

When you connect the remote control to the projector as mentioned above, the remote control detector of the projector does not function. For wireless operation, be sure to disconnect both plugs from the projector and the remote control.

Keys on the Remote Control

Notes

- The VOLUME +/– ⑭, MG FOCUS ⑮, FOCUS LENS ⑯, INPUT SELECT C and D ㉔, AUDIO MUTING ㉘ and LCD LENS CONTROL ㉙ keys do not function with this projector.
- The W/B BIAS/GAIN ⑱, REGISTRATION ⑲, ADJ R/G/B ⑳ and CUT OFF R/G/B ㉑ keys function only in serviceman adjustment mode.


① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
LIGHT
MUTING
PIC
AUDIO
STATUS
OFF
ON
COMMAND
OFF ON
POWER
OFF
ON
NORMAL
LCD LENS CONTROL
ZOOM
SHIFT
FOCUS
PATTERN
RGB
SIZE
SHIFT
CENT
R
B
MEMORY
MENU
ENTER
INPUT SELECT
VIDEO
SELECT
VIDEO/S VIDEO
A B C D
SWITCHER/INDEX
1 2 3 4 5 6 7 8 9
0(ALL)
SECOND
SWITCHER INDEX
BLKG
RESET
PICTURE CONTROL
BRIGHT
CONTR
SHARP
HUE
COLOR
POSITION
VOLUME
CUT OFF
R G B
ADJ
R G B
W/B
BIAS
GAIN
FOCUS
MG FOCUS
LENS
REGISTRATION
CENT
SIZE
LIN
SKEW
BOW
KEY
PIN
ZONE
POSITION
⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯
⑰ ⑱ ⑲ ⑳ ㉑
㉒ ㉓ ㉔ ㉕ ㉖ ㉗ ㉘ ㉙

① LIGHT button
Illuminates the key indicators when the COMMAND switch ⑥ is set to ON. If the COMMAND switch is set to OFF, only the COMMAND switch is illuminated.
The key indicators turn off if you press the LIGHT button again.
If you do not press any key for more than 30 seconds, the indicators also turn off automatically.
When the remote control is connected to the CONTROL S IN/PLUG IN POWER jack of the projector via the remote control cable, the power is supplied to the remote control from the projector.

② Transmission indicator
Lights each time you press a key. If it does not light, replace the batteries with new ones.

③ STATUS ON/OFF key
Press OFF to eliminate the on-screen display.
Press ON to restore the on-screen display.

Note
The menus and warning messages appear even if the OFF key is pressed.

④ RGB SHIFT key
Enters the shift adjustment mode for the input signal. Next adjust the position of the picture using the four arrow keys. The picture shifts in the direction of the arrow on the pressed key.
Press the MEMORY key ⑧ to store the adjusted value and display the adjusted picture.

⑤ RGB SIZE key
Enters the size adjustment mode for the input signal. Next adjust the size of the picture using the four arrow keys.
← : to reduce horizontal size
→ : to expand horizontal size
↑ : to expand vertical size
↓ : to reduce vertical size
Press the MEMORY key ⑧ to store the adjusted value and display the adjusted picture.

⑥ COMMAND ON/OFF switch
No keys on the remote control except the LIGHT key ① function when this switch is set to OFF. This saves battery power.

⑦ CENT R/B keys
Enter the centering adjustment mode of the red and blue.
R: Press to enter the red centering adjustment mode.
B: Press to enter the blue centering adjustment mode.
Perform the centering adjustment using the four arrow keys.

⑧ MEMORY key
Stores various adjusted data into memory.

⑨ POWER ON/OFF keys
Turn on and off the projector when the MAIN POWER switch on the projector is set to ON.

⑩ Menu operation keys
Used for various adjustment functions and for menu operations.
MENU: Displays the main menu. Press it again to turn off the menu.
Arrow keys: Adjusts the value or selects the item in the menu.
ENTER: Stores the settings in the menu.

⑪ RESET key
Resets the adjusted levels to the factory preset, serviceman adjusted or initial setting levels.

⑫ POSITION +/– keys
Select the position to be adjusted on the screen in focus, registration or blanking adjustment mode.
Also, set V SHIFT to WIDE or NARROW in the RGB input signal's SHIFT adjustment mode.

⑬ PICTURE CONTROL keys
Adjust the picture conditions: CONTR (contrast), BRIGHT (brightness), COLOR, HUE and SHARP (sharpness).

⑭ VOLUME +/– keys
These keys do not function with this projector.

⑮ MG FOCUS key
This key does not function with this projector.

⑯ FOCUS LENS key
This key does not function with this projector.

⑰ POSITION +/– keys
Function the same as the POSITION +/– ⑫ keys.
Select the position to be adjusted on the screen in focus, registration or blanking adjustment mode.

⑱ W/B (white balance) keys
Enter the white balance adjustment mode.
BIAS: Adjusts cut off.
GAIN: Adjusts drive.

⑲ REGISTRATION keys
CENT/SIZE/LIN/SKEW/BOW/KEY/PIN/ZONE
Select the desired item for registration adjustment with each key, then adjust the item with the arrow keys.
For details, see "Keys for Adjusting" on page 70 (EN).

⑳ ADJ R/G/B (adjust red/green/blue) keys
Select color to be adjusted when adjusting the focus, registration and white balance adjustments.
R: Red signal
G: Green signal
B: Blue signal

㉑ CUT OFF keys
Select the color to be turned off when adjusting the registration. Press again to turn on the color.
R: Red signal
G: Green signal
B: Blue signal

For Remote Control

㉒ SWITCHER/INDEX select switch
Selects the function of the SWITCHER/INDEX keys.
Set to SWITCHER to select the input from the PC-1271/1271M Signal Interface Switcher.
Set to INDEX to assign the index number of each projector when multiple projectors are used.

㉓ SWITCHER/INDEX keys
When the SWITCHER/INDEX select switch is set to SWITCHER
When the PC-1271/1271M switcher (not supplied) is connected to the projector, press a number key (1 – 8) to select the input from the switcher. The number key 9 does not function.
To select the input from the second switcher (when the SINGLE/SECOND/OTHER switch on the switcher is set to SECOND), press a number key between 1 and 8 within two seconds after pressing the SECOND key.
When the SWITCHER/INDEX select switch is set to INDEX
When multiple projectors are connected, select the index number, which is set with the INDEX NO. switch on the rear panel, of the projector to be adjusted. Press a number key (1 – 9) to designate the index number, then press the ENTER key. When adjusting all the projectors simultaneously, press the 0 (ALL) key, then the ENTER key.

㉔ INPUT SELECT keys
Select the input signal.
VIDEO: The signal input from the VIDEO IN or S VIDEO IN (or Y/C IN) connectors
SELECT VIDEO/S VIDEO: Selects the signal input from the VIDEO IN or S VIDEO IN (or Y/C IN) connectors after pressing the VIDEO key.
A: The RGB, component or HDTV signal input from the INPUT A connectors
B: The signal input from the INPUT B section when the optional interface board other than the IFB-40 is installed
C, D: These keys do not function with this projector.

Note

To switch the input signal from the INPUT A or INPUT B to the S VIDEO IN (or Y/C IN) connectors, first press the VIDEO key, then press the SELECT VIDEO/S VIDEO key.

㉕ BLKG (blanking) key
Enters the blanking adjustment mode.
You can adjust the blanking with the four arrow keys.
For details, see "Blanking Adjustment" on pages 93 (EN) and 95 (EN).

㉖ PATTERN key
Displays the internal test patterns of the projector.
Each press of the key advances the test pattern sequentially.
In the focus, registration or white balance adjustment mode, only the test patterns suitable for the adjustment will be displayed.
For details, see "Test Patterns" on page 59 (EN).

㉗ NORMAL key
Erases the test pattern or cancels the various adjustment modes.

㉘ MUTING keys
PIC (Picture): Cuts off the picture. To restore the picture, press the key again.
AUDIO: This key does not funcion with this projector.

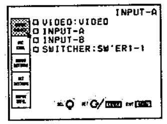
㉙ LCD LENS CONTROL keys
These keys do not function with this projector.

Using the MENU

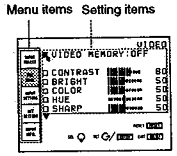
The projector is equipped with an on-screen menu for making various adjustments and settings.
The language used in the menu can be changed to French, German, Italian, Spanish, Japanese or Chinese.
For details, see "LANGUAGE" on page 51 (EN).

Basic Menu Operation

1 Press the MENU key.
The menu display appears.
The menu presently selected is highlighted in blue.



2 Use the ↓ or ↑ keys to select a menu, then press the → key or the ENTER key.
The selected menu appears.
The setting items that are indicated in white cannot be selected.

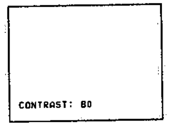


3 Use the ↓ or ↑ keys to select a setting item, then press the → key or the ENTER key.
The adjustment menu or the setting menu (pop-up menu) appears.

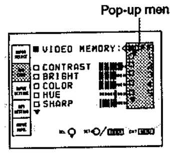
If there are two or more pages for a menu
The ▼ indication appears below the bottom item.
To go to the next page, move the cursor to the bottom item with the ↓ key, then press the ↓ key.
To go back to the previous page, move the cursor to the top item with the ↑ key, then press the ↑ key.

4 Make adjustment or setting on the menu.

To change the adjustment level
To increase the level, press the ↑ or → key.
To decrease the level, press the ↓ or ← key.
Then press the ENTER key to store the level. The original screen is restored.



To select an item
Use the ↓ or ↑ key to select an item in a pop-up menu, then press the ← key or the ENTER key. The selected setting is stored and the pop-up menu disappears.



For details on setting individual items, see the relevant menu pages.

To clear the menu display

Press the MENU key.
The menu display also disappears automatically if no key is pressed for about one minute.

To reset the settings that have been adjusted

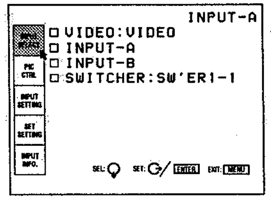
Press the RESET key. "Reset complete!" appears on the screen and the settings appearing on the screen will be reset to the factory preset, serviceman adjustment and initial setting levels.

Memory of the settings

The settings in the menus are automatically stored in the projector memory. You can also store the settings by pressing the MEMORY key.

The INPUT SELECT Menu

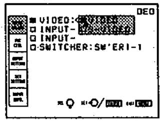
The INPUT SELECT menu is used for selecting the input signal.
Items that can be selected are highlighted in green.
You cannot select the items indicated in white.


INPUT-A
☐ VIDEO:VIDEO
☐ INPUT-A
☐ INPUT-B
☐ SWITCHER:SW'ER1-1

SEL:
SET:
ENTER
EXIT:
MENU

VIDEO

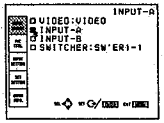
Selects signal input from the VIDEO IN or S VIDEO IN (or Y/C IN) connectors.


■ VIDEO:
☐ INPUT-
☐ INPUT-
☐ SWITCHER:SW'ER1-1

Select VIDEO or S-VIDEO in the pop-up menu.

INPUT-A

Selects signal input from the INPUT A connectors.

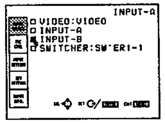

INPUT-A
☐ VIDEO:VIDEO
INPUT-A
☐ INPUT-B
☐ SWITCHER:SW'ER1-1

Notes

- When the INPUT A connectors are connected to the PC-1271/1271M Switcher with the 5BNC cables, INPUT-A cannot be selected.
- If the setting of INPUT-A in the SET SETTING menu is incorrect, the picture may be distorted.
  For details, see page 50 (EN).

INPUT-B

Selects signal input from the connectors on the optional signal interface board installed to the INPUT B section.

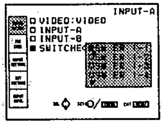

INPUT-A
☐ VIDEO:VIDEO
☐ INPUT-A
INPUT-B
☐ SWITCHER:SW'ER1-1

Notes

- When the PC-1271/1271M Signal Interface Switcher is connected to the projector via the IFB-40 Signal Interface Board installed to the INPUT B section, INPUT-B cannot be selected.
- If the setting of INPUT-B in the SET SETTING menu is incorrect, the pictue may be distorted.
  For details, see page 50 (EN).

SWITCHER

When the PC-1271/1271M Signal Interface Switcher is connected to the projector, selects signal input from the switcher.


INPUT-A
☐ VIDEO:VIDEO
☐ INPUT-A
☐ INPUT-B
■ SWITCHE

You can select SW'ER1-1 to SW'ER2-8 in the pop-up menu. They are always displayed in green even when no signal is input.

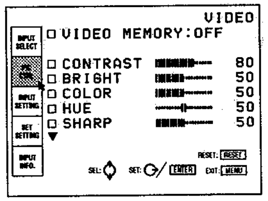
Note

SWITCHER can be selected only when the IFB-40 Signal Interface Board is installed to the INPUT B section, or when 5BNC MODE in the SET SETTING menu is set to ON.

The PIC CTRL (Picture Control) Menu

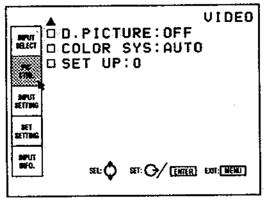
The PIC CTRL menu is used for adjusting the picture.
Items that can be adjusted are highlighted in green.
You cannot select the items indicated in white.

Page 1


VIDEO
☐ VIDEO MEMORY:OFF
☐ CONTRAST 80
☐ BRIGHT 50
☐ COLOR 50
☐ HUE 50
☐ SHARP 50

INPUT SELECT
INPUT SETTING
SET SETTING
INPUT INFO.
RESET:
RESET
SEL:
SET:
ENTER
EXIT:
MENU

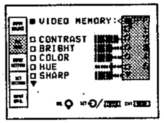
Page 2


VIDEO
☐ D.PICTURE:OFF
☐ COLOR SYS:AUTO
☐ SET UP:0

INPUT SELECT
INPUT SETTING
SET SETTING
INPUT INFO.
SEL:
SET:
ENTER
EXIT:
MENU

VIDEO MEMORY

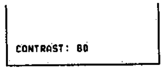
Selects a memory number of the adjusted picture levels.


■ VIDEO MEMORY:
☐ CONTRAST
☐ BRIGHT
☐ COLOR
☐ HUE
☐ SHARP

Select a number from 1 to 10 in the pop-up menu, then the picture levels that have been adjusted will be stored in the number of the projector's memory.
If you want to use the data at the factory preset levels, select OFF.
The items to be stored in the VIDEO MEMORY are shown in the table of the memory architecture under "Input memory" (except for the items, "clamp position" and "registration"). (*page 99*)

CONTRAST

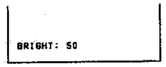
Adjusts the picture contrast.


CONTRAST: 80

The higher the setting, the greater the contrast.
The lower the setting, the lower the contrast.

BRIGHT (brightness)

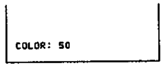
Adjusts the picture brightness.


BRIGHT: 50

The higher the setting, the brighter the picture.
The lower the setting, the darker the picture.

COLOR

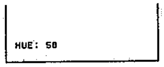
Adjusts color intensity.


COLOR: 50

The higher the setting, the greater the intensity.
The lower the setting, the lower the intensity.

HUE

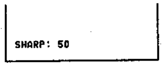
Adjusts skin tones.


HUE: 50

At high settings, the picture becomes greenish.
At low settings, the picture becomes purplish.

SHARP (sharpness)

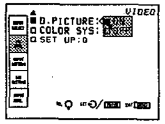
Adjusts the picture sharpness.


SHARP: 50

The higher the setting, the sharper the picture.
The lower the setting, the softer the picture.

D. (Dynamic) PICTURE

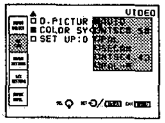
Emphasizes the black of the composite video, S video (Y/C) or component signal.


VIDEO
D.PICTURE:
COLOR SYS:
SET UP:0

ON: Emphasizes the black to produce a bolder "dynamic" picture.
OFF: Reproduces the dark portions of the picture accurately, in accordance with the source signal.

COLOR SYS (System)

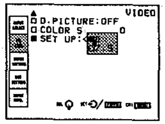
Selects the color system of the composite video or S video (Y/C) signal.


VIDEO
D.PICTUR
COLOR SY
SET UP:0

Normally, set to AUTO.
If the picture is distorted or colorless, select the color system according to the input signal.

SET UP

Changes the set up level (standard black level) to 0 IRE or 7.5 IRE according to the NTSC source signal.


VIDEO
D.PICTURE:OFF
COLOR S
SET UP:

0 IRE: Normally, set to this position.
7.5 IRE: Set to this position when the black color is too light.

Input signals and adjustable/setting items

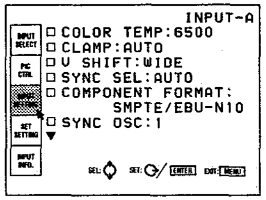
Item	Input signal			
	Video or S video (Y/C)	Component	HDTV	RGB
CONTRAST	Y	Y	Y	Y
BRIGHT	Y	Y	Y	Y
COLOR	Y	Y	Y	N
HUE	Y (NTSC$_{3.58}$/ NTSC$_{4.43}$ system only)	N	Y	N
SHARP	Y	Y	Y	N
D. PICTURE	Y	Y	N	N
COLOR SYS	Y	N	N	N
SET UP	Y (NTSC$_{3.58}$/ NTSC$_{4.43}$ system only)	N	N	N

Y: Adjustable/can be set
N: Not adjustable/cannot be set

The INPUT SETTING Menu

The INPUT SETTING menu is used to adjust the input signal.
Items that can be adjusted are displayed in green.
You cannot select the items indicated in white.

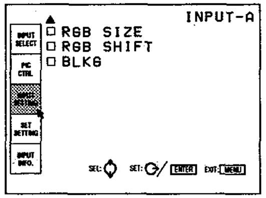
Page 1



```
                      INPUT-A
□ COLOR TEMP:6500
□ CLAMP:AUTO
□ V SHIFT:WIDE
□ SYNC SEL:AUTO
□ COMPONENT FORMAT:
        SMPTE/EBU-N10
□ SYNC OSC:1
▼
```

INPUT SELECT
PC CTRL
SET SETTING
INPUT INFO.
SEL:
SET:
ENTER
EXIT:
MENU

Page 2

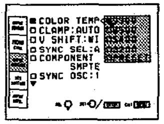


```
▲                     INPUT-A
□ RGB SIZE
□ RGB SHIFT
□ BLKG
```

INPUT SELECT
PC CTRL
SET SETTING
INPUT INFO.
SEL:
SET:
ENTER
EXIT:
MENU

COLOR TEMP (Temperature)

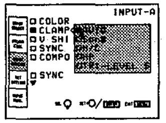
Selects the appropriate color temperature according to your application and the input source signal.


COLOR TEMP
CLAMP:AUTO
V SHIFT:WI
SYNC SEL:A
COMPONENT
SMPTE
SYNC OSC:1
PRESET

If you wish to make the color of a particular input signal uniform to that of a color monitor, select PRESET, then adjust the white balance.
For details, see "Adjusting the White Balance" on page 96 (EN).

CLAMP

Corrects the luminance of the input picture.


INPUT-A
COLOR
CLAMP
V SHI
SYNC
COMPO
SYNC
H/C
HP
TRI-LEVEL S

CLAMP is used as a standard for setting the black level of a picture correctly. The standard position of the clamp depends on the kind of sync signal being used. Normally, the projector CPU judges the signal and sets the position automatically. However, the CPU can misjudge the signal because of noise. If the luminance of the picture seems to be incorrect, the clamp position may need to be changed.

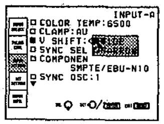
AUTO: Automatic setting mode. Normally set to this position.
SonG: Set to this position if the black seems too light or greenish.
H/C: Set to this position if the picture is too dark or luminance is unstable.
HP: If the luminance is still incorrect after changing to the SonG or H/C position, set to this position and perform the H-SHIFT adjustment.
TRI-LEVEL S: Set to this position if the picture is dark when using the tri-level sync.

Note

If the luminance is still incorrect after changing the clamp setting, check the input signal and the connections.

V (Vertical) SHIFT

Sets the adjustable range of the vertical shift of the input signal.



```
                    INPUT-A
□ COLOR TEMP:6500
□ CLAMP:AU
■ V SHIFT:◀WIDE
□ SYNC SEL  NARROW
□ COMPONEN
         SMPTE/EBU-N10
□ SYNC OSC:1
```

WIDE: Normally, set to this position (factory preset).

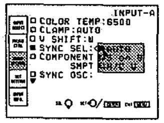
NARROW: When some signal such as a superimposed signal with unstable vertical sync. signal is input, the picture may be distorted vertically. In this case, set to this position. Adjustable range in the lower direction will become narrow.

Note

When the video, S video or component signal is input, V SHIFT is fixed to NARROW.

SYNC SEL (select)

Selects the sync signal.



```
                    INPUT-A
□ COLOR TEMP:6500
□ CLAMP:AUTO
□ V SHIFT:W
■ SYNC SEL:◀AUTO
□ COMPONENT  SonG
         SMPT H/C V
□ SYNC OSC:
```

AUTO: Automatic setting mode. Normally set to this position.

SonG: Set to this position if you project the picture using the sync on G signal.

H/C V: Set to this position if you project the picture using the external sync signal.

When an HDTV signal is input

You can select the items below instead of the above items.

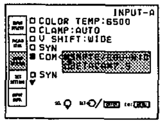
INT: Set to this position when using the internal sync signal.

EXT (C): Set to this position when using the external composite sync signal.

EXT (HV): Set to this position when using the external horizontal/vertical sync signal.

COMPONENT FORMAT

Selects the format of the component input signal.



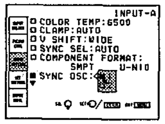
```
                    INPUT-A
□ COLOR TEMP:6500
□ CLAMP:AUTO
□ V SHIFT:WIDE
□ SYN
■ COM◀SMPTE/EBU-N10
      BETACAM7.5
□ SYN
```

SMPTE/EBU-N10: Set to this position if the input signal is the SMPTE or EBU-N10 format component signal.

BETACAM7.5: Set to this position if the input signal is the Betacam format component signal.

SYNC OSC (oscillation)

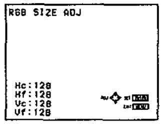
Normally, set to 1. When synchronization is distorted according to the type of the input signal, set to 2.



```
                    INPUT-A
□ COLOR TEMP:6500
□ CLAMP:AUTO
□ V SHIFT:WIDE
□ SYNC SEL:AUTO
□ COMPONENT FORMAT:
         SMPT     U-N10
■ SYNC OSC:◀1
            2
```

RGB SIZE

Adjusts the picture size of the input signal.



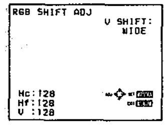
```
RGB SIZE ADJ





Hc:128
Hf:128
Vc:128
Vf:128
```

Use the ◆ or ➡ key to adjust the horizontal size.
Use the ⬆ or ⬇ key to adjust the vertical size.

Hc and Hf show the size adjustment levels for the horizontal direction and Vc and Vf show those for the vertical direction. The higher the setting level, the greater the picture size.

RGB SHIFT

Adjusts the picture position of the input signal.



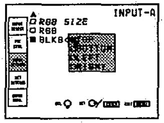
```
RGB SHIFT ADJ
                V SHIFT:
                   WIDE



Hc:128
Hf:128
V :128
```

Use the ⬅ or ➡ key to adjust the horizontal position.
Use the ⬆ or ⬇ key to adjust the vertical position.

Hc and Hf show the shift adjustment levels for the horizontal direction and V shows the level for the vertical direction.

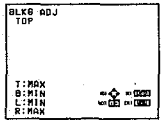
BLKG (Blanking)

Cuts off the excess parts if the displayed picture is larger than the screen.



```
                    INPUT-A
□ RGB SIZE
□ RGB
■ BLKG◀TOP
       BOTTOM
       LEFT
       RIGHT
```

Select the part to be adjusted among TOP, BOTTOM, LEFT and RIGHT, then press the ➡ key or the ENTER key to display the blanking adjustment screen.



```
BLKG ADJ
 TOP




T:MAX
B:MIN
L:MIN
R:MAX
```

Use the ⬆ or ⬇ key to adjust the TOP and BOTTOM parts.
Use the ⬅ or ➡ key to adjust the LEFT and RIGHT parts.

Input signals and adjustable/setting items

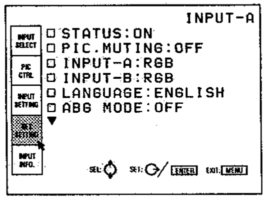
Items	Input signal			
	Video or S video (Y/C)	Component	HDTV	RGB
COLOR TEMP	Y	Y	Y	Y
CLAMP	N	N	Y	Y
V SHIFT	N	N	Y	Y
SYNC SEL	N	N	Y	Y
COMPONENT FORMAT	N	Y	N	N
SYNC OSC	Y	Y	Y	Y
RGB SIZE	Y	Y	Y	Y
RGB SHIFT	Y	Y	Y	Y
BLKG	Y	Y	Y	Y

Y: Adjustable/can be set
N: Not adjustable/cannot be set

The SET SETTING Menu

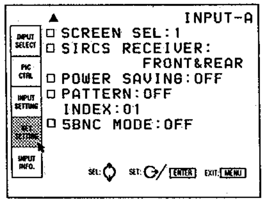
The SET SETTING menu is used for changing the default settings of the projector.
Items that can be adjusted are highlighted in green.
You cannot select the items indicated in white.

Page 1



```
                         INPUT-A
□ STATUS:ON
□ PIC.MUTING:OFF
□ INPUT-A:RGB
□ INPUT-B:RGB
□ LANGUAGE:ENGLISH
□ ABG MODE:OFF
▼
```

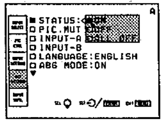
Page 2



```
▲                        INPUT-A
□ SCREEN SEL:1
□ SIRCS RECEIVER:
          FRONT&REAR
□ POWER SAVING:OFF
□ PATTERN:OFF
  INDEX:01
□ SBNC MODE:OFF
```

STATUS

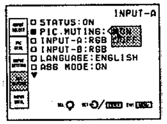
Selects the on-screen display mode.



ON: Shows all of the on-screen displays.
OFF: Turns off the on-screen displays except for "NO INPUT," "PIC MUTING," warning messages and menu displays.
ALL OFF: Turns off all of the on-screen displays except for warning messages and menu displays.

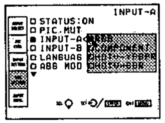
PIC. (Picture) MUTING

Set to ON to cut off the picture.
When set to ON, "PIC MUTING" appears on the screen.



INPUT-A

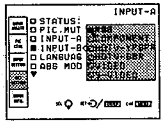
Selects the signal input from the INPUT A connectors.



RGB: Inputs the RGB signal.
COMPONENT: Inputs the component signal.
HDTV-YPBPR: Inputs the HDTV (YPBPR) signal.
HDTV-GBR: Inputs the HDTV(GBR) signal.

INPUT-B

Selects the signal input from the IFB-12 Signal Interface Board (not supplied) installed to the INPUT B section.



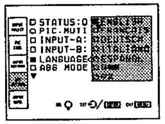
RGB: Inputs the RGB signal.
COMPONENT: Inputs the component signal.
HDTV-YPBPR: Inputs the HDTV (YPBPR) signal.
HDTV-GBR: Inputs the HDTV(GBR) signal.
VIDEO: Inputs the composite video signal.
S-VIDEO: Inputs the S video signal.

Note

When a signal interface board other than the IFB-12 is installed, the menu items cannot be selected.

LANGUAGE

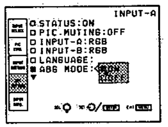
Selects the language used in the on-screen displays.



Available languages are: English, French, German, Italian, Spanish, Japanese and Chinese.

ABG (Automatic Background) MODE

Normally, set to ON (factory setting). Cutoff luminance will be set to a certain level. Set to OFF if you want to erase the horizontal luminescent line for cutoff level detection that may appear at the upper part of the picture.

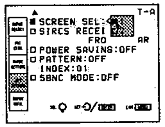


Note

When ABG MODE is set to OFF, the black level of the white balance may change.

SCREEN SEL (Select)

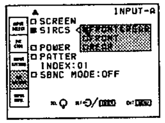
Selects the screen to be used.



1: Bead screen
2: Mat screen

SIRCS RECEIVER

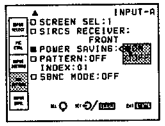
Selects the remote control detectors on the front and rear of the projector, if the wireless remote control does not operate correctly due to the influence of a fluorescent lamp, etc.



FRONT & REAR: Activates both the front and rear detectors.
FRONT: Activates the front detector only.
REAR: Activates the rear detector only.

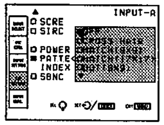
POWER SAVING

When set to ON, the projector goes into the power saving mode if no signal is input for 10 minutes. The screen enters cut-off mode. The power saving mode is canceled when a signal is input or whenever any key is pressed.



PATTERN

Selects the type of the test pattern to be displayed.

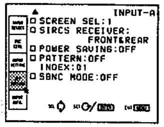


INPUT-A
SCRE
SIRC
POWER
PATTE
INDEX
5BNC

Selectable patterns are: CROSS HAIR, HATCH (9 × 9), HATCH (17 × 17), DOT (9 × 9), H, H INV (inverse), ME, ME INV (inverse), ALL WHITE, WINDOW, WINDOW&LINE and COLOR BAR (serviceman adjustment mode).
Set to OFF when you do not want to display a test pattern.
For displaying the test patterns, see "Test Patterns" on page 59 (EN).

INDEX (Index number)

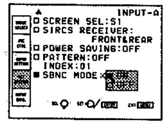
Indicates the index number of the projector set with the INDEX NO. switches on the rear panel.



INPUT-A
☐ SCREEN SEL:1
☐ SIRCS RECEIVER:
FRONT&REAR
☐ POWER SAVING:OFF
☐ PATTERN:OFF
INDEX:01
☐ 5BNC MODE:OFF

5BNC MODE

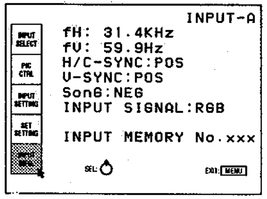
Set to ON when you connect the MONITOR OUT connector on the PC-1271/1271M Signal Interface Switcher (not supplied) to the INPUT A connectors with the 5BNC cables.



INPUT-A
☐ SCREEN SEL:S1
☐ SIRCS RECEIVER:
FRONT&REAR
☐ POWER SAVING:OFF
☐ PATTERN:OFF
INDEX:01
■ 5BNC MODE:

The INPUT INFO (Information) Menu

The INPUT INFO menu displays the information on the current input signal.



INPUT-A
fH: 31.4KHz
fV: 59.9Hz
H/C-SYNC:POS
V-SYNC:POS
SonG:NEG
INPUT SIGNAL:RGB
INPUT MEMORY No.xxx

fH (Horizontal frequency)

Indicates the horizontal frequency of the input signal. This indication is not an absolute value, but is only used as a reference.

fV (Vertical frequency)

Indicates the vertical frequency of the input signal. This indication is not an absolute value, but is only used as a reference.

H/C (Horizontal/Composite)-SYNC

Indicates the polarity of the horizontal or composite sync signal. When the picture is being projected using this type of sync signal, the POS (NEG) is displayed in green. When the picture is being projected without using this type of sync signal, the POS (NEG) is displayed in white.
POS: The polarity of the sync signal is positive.
NEG: The polarity of the sync signal is negative.
– – –: No sync signal is input.

V (Vertical)-SYNC

Indicates the polarity of the vertical or composite sync signal.
When the picture is being projected using this type of sync signal, the POS (NEG) is displayed in green.
When the picture is being projected without using this type of sync signal, the POS (NEG) is displayed in white.
POS: The polarity of the sync signal is positive.
NEG: The polarity of the sync signal is negative.
– – –: No sync signal is input.

SonG (Sync on Green)

Indicates the polarity of the sync on Green. When the picture is being projected using this type of sync signal, the NEG is displayed in green. When the picture is being projected without using this type of sync signal, the NEG is displayed in white.
NEG: The polarity of the sync signal is negative.
– – –: No sync signal is input.

INPUT SIGNAL

Displays the type of current input signal.
NTSC 3.58: NTSC$_{3.58}$ input signal
PAL: PAL input signal
SECAM: SECAM input signal
NTSC 4.43: NTSC$_{4.43}$ input signal
PAL-M: PAL-M input signal
B/W: Black and white input signal
Y/C: S video input signal
RGB: RGB input signal
COMPONENT: Component input signal
HDTV YPBPR: HDTV YP$_B$P$_R$ input signal
HDTV GBR: HDTV GBR input signal
IDTV: IDTV input signal from the optional PC-1271/1271M Signal Interface Switcher via the optional IFB-3000 Interface Board installed to the PC-1271/1271M.

INPUT MEMORY No.

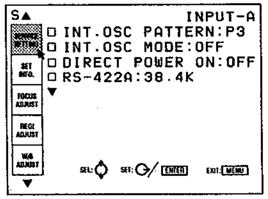
Indicates the memory number of the current input signal.
By default seven basic data are stored in the following memory numbers.

Memory number	Preset signal frequencies		Types of the input signal
	fH	fV	
00	15.7 kHz	60 Hz	Video (NTSC$_{3.58}$)
01	24.8 kHz	56 Hz	RGB
02	31.5 kHz	60 Hz	RGB
03	48.3 kHz	60 Hz	RGB
04	64.0 kHz	60 Hz	RGB
05	31.5 kHz	60 Hz	IDTV (NTSC$_{3.58}$)
06	33.8 kHz	60 Hz	HDTV (Y/P$_B$/P$_R$)

The SERVICE SETTING Menu

The SERVICE SETTING menu is used for adjustments performed in serviceman adjustment mode. "S" appears at the top left corner of the menu, indicating serviceman adjustment mode.

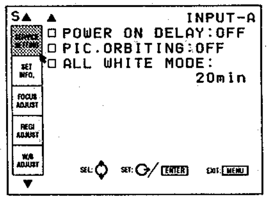
Page 1



```
S▲                INPUT-A
  ☐ INT.OSC PATTERN:P3
  ☐ INT.OSC MODE:OFF
  ☐ DIRECT POWER ON:OFF
  ☐ RS-422A:38.4K
  ▼
```

SERVICE SETTING
SET INFO.
FOCUS ADJUST
REGI ADJUST
W/B ADJUST
SEL:
SET: /ENTER
EXIT: MENU

Page 2

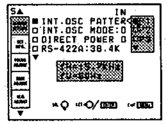


```
S▲ ▲              INPUT-A
  ☐ POWER ON DELAY:OFF
  ☐ PIC.ORBITING:OFF
  ☐ ALL WHITE MODE:
                  20min
```

SERVICE SETTING
SET INFO.
FOCUS ADJUST
REGI ADJUST
W/B ADJUST
SEL:
SET: /ENTER
EXIT: MENU

INT. (internal) OSC (oscillation) PATTERN

Selects the oscillation frequency pattern generated with the internal oscillator.
The horizontal and vertical frequencies for the selected pattern are displayed in the pop-up menu on the screen.

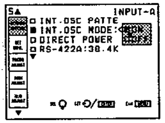


SA
IN
■ INT.OSC PATTER
☐ INT.OSC MODE:O
☐ DIRECT POWER O
☐ RS-422A:38.4K

P0: fH = 15.7 kHz, fV = 60 Hz
P1: fH = 24.8 kHz, fV = 56 Hz
P2: fH = 31.5 kHz, fV = 60 Hz
P3: fH = 48.3 kHz, fV = 60 Hz
P4: fH = 64.0 kHz, fV = 60 Hz

INT. (internal) OSC (ocillation) MODE

Set to ON to activate the internal oscillator.

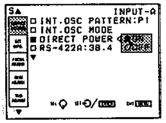


SA
INPUT-A
☐ INT.OSC PATTE
■ INT.OSC MODE:
☐ DIRECT POWER
☐ RS-422A:38.4K

Note
When no signal is input, you cannot select this item.

DIRECT POWER ON

Set to ON to turn on the projector by pressing the MAIN POWER switch on the projector. Set to OFF to enter standby mode by pressing the MAIN POWER switch.

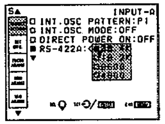


SA
INPUT-A
☐ INT.OSC PATTERN:P1
☐ INT.OSC MODE
■ DIRECT POWER
☐ RS-422A:38.4

Note
When the projector is in standby mode (it is turned off by pressing the POWER OFF key on the remote control) with DIRECT POWER ON set to ON, the projector will be turned on automatically if the power interruption occured and has been restored.

RS-422A

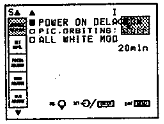
Sets the communication baud rate for the RS-422A terminal to 38.4K, 19.2K, 9600 or 4800.



SA
INPUT-A
☐ INT.OSC PATTERN:P1
☐ INT.OSC MODE:OFF
☐ DIRECT POWER ON:OFF
■ RS-422A:
38.4K
19.2K
9600
4800

POWER ON DELAY

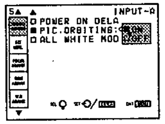
When connecting multiple projectors, set to ON to turn on the projectors sequencially one by one.



SA ▲
I
■ POWER ON DELA
☐ PIC.ORBITING:
☐ ALL WHITE MOD
20min

PIC. (picture) ORBITING

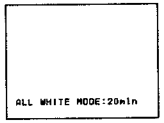
Set to ON to activate the function which shifts the picture slightly to reduce CRT burn.



SA ▲
INPUT-A
☐ POWER ON DELA
■ PIC.ORBITING:
☐ ALL WHITE MOD
ON
OFF

ALL WHITE MODE

Sets the duration of all white mode during a warm-up period.

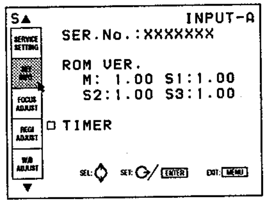


ALL WHITE MODE:20min

Use the ↑, ↓, ← or → key to set the duration in 1 minute increments from 0 to 99 minutes.
To set the projector to display the picture immediately after the projector is turned on, set the duration to "0 min."
For details, see "Changing the Initialization Period" on page 114 (EN).

The SET INFO (information) Menu

The SET INFO menu displays the information on the projector such as the serial number, a ROM version, the use time of the projector.



```
S▲                INPUT-A
    SER.No.:XXXXXXX

    ROM VER.
      M: 1.00 S1:1.00
      S2:1.00 S3:1.00

  ☐ TIMER
```

SERVICE SETTING
SET INFO.
FOCUS ADJUST
REGI ADJUST
W/B ADJUST
SEL:
SET: /ENTER
EXIT: MENU

SER. (serial) No.

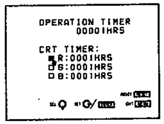
Indicates the serial number of the projector.

ROM VER. (version)

Indicates the ROM version (M, S1, S2 and S3) used for the projector.

TIMER

Indicates the use time of the projector and that of each CRT.

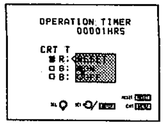


```
OPERATION TIMER
       00001HRS

CRT TIMER:
  R:0001HRS
  G:0001HRS
  B:0001HRS
```

OPERATION TIMER: Indicates the total use time of the projector.
CRT TIMER: Indicates the use time of the red, green and blue CRTs, respectively.

(continued)

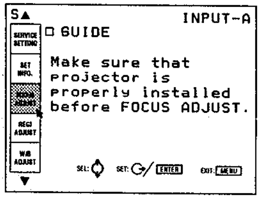
When CRT TIMER R (red), G (green) or B (blue) is selected, you can reset the timer to "0" for each CRT.


OPERATION TIMER
00001HRS
CRT T
■ R: RESET
☐ G: ON
☐ B: OFF

RESET ON: Resets the timer to "0" when, for example, a CRT has been replaced.
RESET OFF: Deactivates the timer reset.

The FOCUS ADJUST Menu

The FOCUS ADJUST menu is used for adjusting the focus.

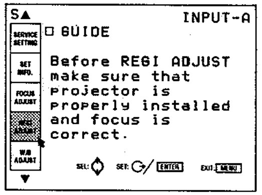

S▲
INPUT-A
☐ GUIDE
SERVICE SETTING
SET INFO.
FOCUS ADJUST
REGI ADJUST
W/B ADJUST
▼
SEL:
SET:
ENTER
EXIT:
MENU

Make sure that projector is properly installed before FOCUS ADJUST.

Select GUIDE to adjust the focus in accordance with the operation guides indicated in the menu.
For details, see "Adjusting the Focus Using the Guide Menu" on page 105 (EN).

The REGI (Registration) ADJUST Menu

The REGI ADJUST menu is used for adjusting the registration.

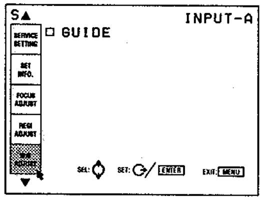

S▲
INPUT-A
☐ GUIDE
SERVICE SETTING
SET INFO.
FOCUS ADJUST
REGI ADJUST
W/B ADJUST
▼
SEL:
SET:
ENTER
EXIT:
MENU

Before REGI ADJUST make sure that projector is properly installed and focus is correct.

Select GUIDE to adjust the registration in accordance with the operation guides indicated in the menu.
For details, see "Adjusting the Registration Using the Guide Menu" on page 108 (EN).

The W/B (White Balance) ADJUST Menu

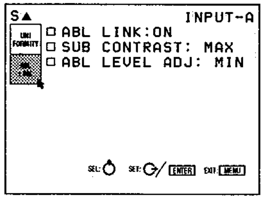
The W/B ADJUST menu is used for adjusting the white balance.


S▲
INPUT-A
☐ GUIDE
SERVICE SETTING
SET INFO.
FOCUS ADJUST
REGI ADJUST
W/B ADJUST
▼
SEL:
SET:
ENTER
EXIT:
MENU

Select GUIDE to adjust the white balance in accordance with the operation guides indicated in the menu.
For details, see "Adjusting the White Balance Using the Guide Menu" on page 112 (EN).

The ABL (Automatic Brightness Limiter) LINK Menu

The ABL LINK menu is used for adjusting to make the brightness of the multi-screen uniform when connecting multiple projectors.

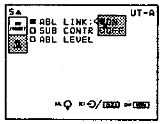

S▲
INPUT-A
SEL:
SET:
ENTER
EXIT:
MENU

☐ ABL LINK:ON
☐ SUB CONTRAST: MAX
☐ ABL LEVEL ADJ: MIN

For details, see "Using the Linked ABL Function" on page 34 (EN).

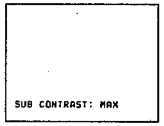
ABL LINK

When set to ON, the ABL (Automatic Brightness Limiter; to control the brightness of the picture when it is too high) functions on all projectors once the ABL functions on any projector.


S▲
UT-A
■ ABL LINK: ON
☐ SUB CONTR OFF
☐ ABL LEVEL

SUB CONTRAST

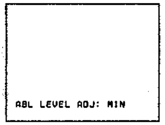
When ABL LINK is set to ON, adjust the brightness of each projector so that the brightness of all projectors looks the same.



SUB CONTRAST: MAX

ABL LEVEL ADJ (adjust)

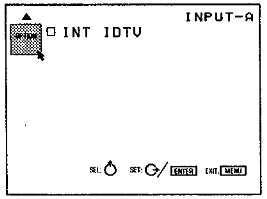
When ABL LINK is set to ON, adjust the brightness of each projector so that the brightness of all projectors looks the same.



ABL LEVEL ADJ: MIN

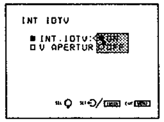
The OPTION Menu

The OPTION Menu is used when installing the EXB-DS10 Extension Board to the projector.



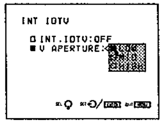
INT. (internal) IDTV

Set to ON to project the video, S video, component or RGB (15 kHz) signal at double density.



V. (vertical) APERTURE

Corrects the sharpness in the vertical direction. You can set the sharpness to the LOW, MID (middle) or HIGH level.

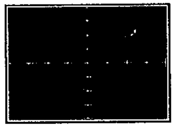


Test Patterns

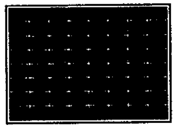
Test Patterns

In each adjustment mode, an appropriate test pattern appears. In addition, you can display other test patterns by pressing the PATTERN key.

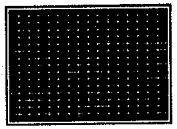
❶ CROSS HAIR



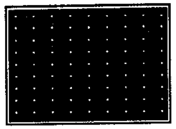
❷ HATCH (9 x 9)



❸ HATCH (17 x 17)

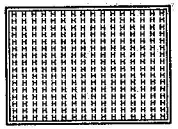


❹ DOT (9 x 9)

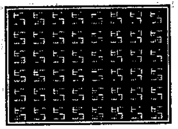


❺ H

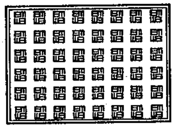
❻ H INV (inverse)



❼ ME

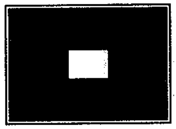


❽ ME INV (inverse)

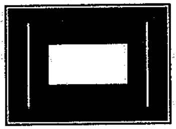


❾ ALL WHITE

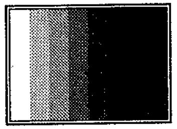
❿ WINDOW



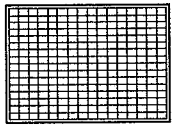
⓫ WINDOW&LINE



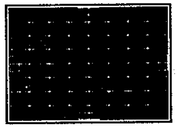
⓬ COLOR BAR



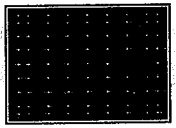
⓭ HACHT INV (invert) (17 x 17) (for adjusting registration only)



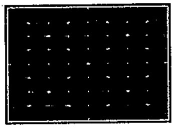
⓮ Sub-pattern 1 (subsidiary adjustment pattern 1) (for adjusting SIZE, LIN, SKEW and BOW only)



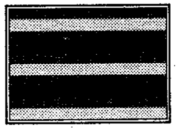
⓯ Sub-pattern 2 (subsidiary adjustment pattern 2) (for adjusting KEY and PIN only)



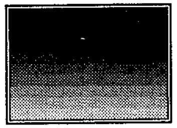
⓰ CROSS (9 x 9)
(for adjusting ZONE only)



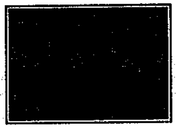
⓱ PLUGE (for adjusting BIAS only)



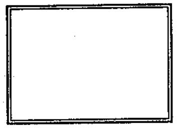
⓲ Stair step (for adjusting GAIN only)



⓳ 5 IRE
(for adjusting BIAS only)



⓴ 100 IRE
(for adjusting GAIN and BIAS only)



The patterns ❶ to ⓬ appear in numerical order when pressing the PATTERN key in serviceman adjustment mode.
The patterns ⓭ to ⓴ appear in specified adjustment modes only.
The outmost bold line of each pattern in the illustration stands for the edge of the screen.

Test Patterns in Each Mode

The patterns cycle through the following order by pressing the PATTERN key.

Adjustment mode	Test pattern
CENT	CROSS HAIR → HATCH (9 × 9) → HATCH (17 × 17) → HATCH INV (17 × 17) → External signal / HATCH (17 × 17) → External signal → CROSS HAIR ...
SIZE LIN SKEW BOW	CROSS HAIR → Sub-pattern 1 → HATCH (17 × 17) → HATCH INV (17 × 17) → External signal / HATCH (17 × 17) → External signal → CROSS HAIR ...
KEY PIN KEY BALANCE PIN BALANCE	HATCH (9 × 9) → Sub-pattern 2 → HATCH (17 × 17) → HATCH INV (17 × 17) → External signal / HATCH (17 × 17) → External signal → HATCH (9 × 9) ...
ZONE	HATCH (9 × 9) → CROSS (9 × 9) → HATCH (17 × 17) → HATCH INV (17 × 17) → External signal / HATCH (9 × 9) → External signal → HATCH (9 × 9) ...
GAIN	Stair step → 100 IRE → WINDOW → External signal → Stair step ...
BIAS	PLUGE → 5 IRE → 100 IRE → External signal → PLUGE...
BLKG	External signal / HATCH (17 × 17) ←→ External signal
RGB SIZE RGB SHIFT	External signal ←→ External signal / HATCH (17 × 17)
Serviceman adjustment mode	Test patterns ❶ to ⓬ shown on page 59 (EN).
User adjustment mode	CROSS HAIR → HATCH (9 × 9) → ME → COLOR BAR → CROSS HAIR ...

Adjusting the Focus

Focus Adjustment Procedure

Before starting the adjustments

- Make sure that the projector is installed correctly and the CRT conversion angle is adjusted correctly.
- When the picture is larger than the screen or is projected from the rear of the screen, roughly adjust the registration before proceeding to the focus adjustment.

Procedure

① Remove the upper cover. *(page 18 (EN))*

↓

② Set the remote control to the serviceman adjustment mode. *(page 37 (EN))*

↓

③ Select the NO INPUT mode. *(page 62 (EN))*

↓

④ Select the internal oscillation pattern (fH = 31.5 kHz). *(page 62 (EN))*

↓

⑤ Display the H-pattern. *(page 62 (EN))*

↓

⑥ Reset both CONTRAST and BRIGHT levels. *(page 63 (EN))*

↓

⑦ Adjust the green lens focus. *(page 63 (EN))*

↓

⑧ Adjust flapping of the green lens. *(page 64 (EN))*

↓

⑨ Adjust the red lens focus. *(page 66 (EN))*

↓

⑩ Adjust flapping of the red lens. *(page 66 (EN))*

↓

⑪ Adjust the blue lens focus. *(page 67 (EN))*

↓

⑫ Adjust flapping of the blue lens. *(page 67 (EN))*

↓

Proceed to the registration adjustment.

Adjusting the Green Focus

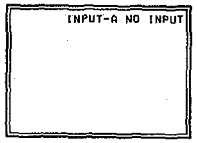
1 Adjusting the green lens focus

1 Remove the upper cover.
For how to remove the upper cover, see page 18 (EN).

2 Set the remote control to the serviceman adjustment mode.
For details, see "Preparation" on page 37 (EN).

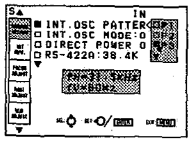
3 Press one of the INPUT SELECT keys on the remote control corresponding to a line that is not connected to a signal.
Or, set the SWITCHER/INDEX select switch to SWITCHER, and then press a number key from 1 to 8 corresponding to a line that is not connected to a signal.

"NO INPUT" appears on the screen.



INPUT-A NO INPUT

4 Display the SERVICE SETTING menu and set INT. OSC PATTERN to P3 (fH = 31.5 kHz).
For details, see "The SERVICE SETTING Menu" on page 54 (EN).

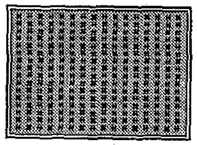


S▲ IN
■ INT.OSC PATTER◁P1
□ INT.OSC MODE:0 P2
□ DIRECT POWER 0 P3
□ RS-422A:38.4K
▼
fH=31.5kHz
fV=60Hz

5 Reset the centering adjustment data of the green signal.
For details, see "Resetting the Data" on page 100 (EN).

6 Press the NORMAL key on the remote control to turn off the test pattern.

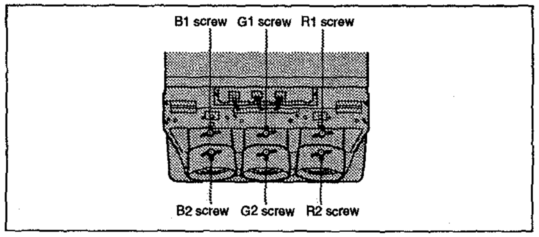
7 Press the PATTERN key on the remote control until the H-pattern appears.



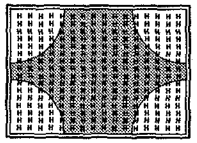
8 Reset the CONTRAST and BRIGHT levels.
The CONTR level resets to 80 by pressing the RESET key after pressing the PICTURE CONTROL CONTR key.
The BRIGHT level resets to 50 by pressing the RESET key after pressing the PICTURE CONTROL BRIGHT key.
For details, see "Adjusting the Picture Quality" on page 103 (EN).

9 Press the CUT OFF R and B keys to display the green signal only.

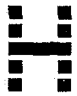
10 Adjust the center-focus.
Loosen the G1 screw, slide it so that the letters H at the center of the screen are in focus, and then tighten the screw.



11 Adjust the corner-focus.
Loosen the G2 screw, slide it so that the letters H at all four corners of the screen (white areas illustrated below) are in focus, and then tighten the screw.
Repeat steps **10** and **11** until the green focus adjustment is completed.
(If the corner-focus cannot be adjusted completely, adjust it again after finishing the flapping adjustment of the green lens.)



Hint for the lens focus adjustment
The letter "H" is made up of dots. Adjust the focus so that dots of the letter "H" can be clearly seen as illustrated below.
Placing a white paper over the front of the screen will make it easier to see the dots.

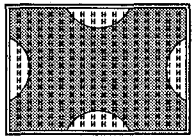


Proceed to the adjustment for flapping of the green lens.

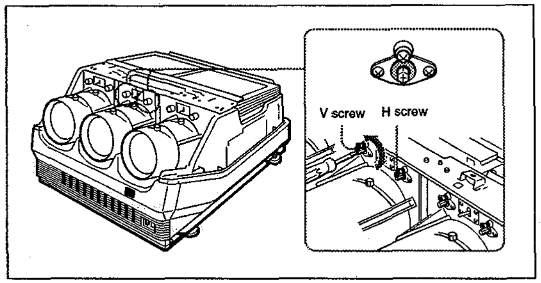
2 Adjusting flapping of the green lens

After finishing the lens focus adjustment, adjust flapping of the green lens (angle of the green CRT) so that the upper and lower parts, and the left and right parts of the screen are equally in focus.

1 Place a white paper over the front of the screen. Note whether the focal surfaces on the upper, lower, left and right parts of the screen appear to be leaning forward or backward.

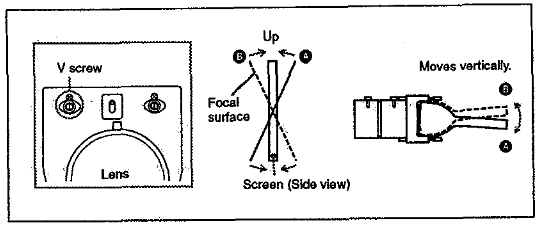


2 Adjust the focus on the upper and lower parts with the V screw on the green CRT with the Philips or box screwdriver.
Loosen the screw for fixing the washer, then turn the V screw. Make sure to tighten the screw to fix the washer after adjustment.

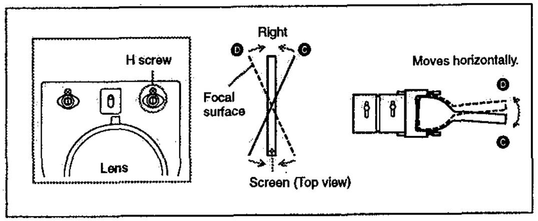

V screw
H screw

Note
Normally, adjust only the V screw for the green CRT. Adjusting the H screw is required only for non-standard installation.
For flapping adjustments of the red and blue lenses, adjust both the H and V screws.

By turning the V screw, the CRT moves vertically to adjust the vertical tilt of the focal surface.


V screw
Lens
Up
B
A
Focal surface
Screen (Side view)
Moves vertically.
B
A

By turning the H screw, the CRT moves horizontally to adjust the horizontal tilt of the focal surface.


H screw
Lens
Right
D
C
Focal surface
Screen (Top view)
Moves horizontally.
D
C

Repeat the above process until the upper and lower parts and the right and left parts of the screen are in focus.

Proceed to the red lens focus adjustment if the green signal is completely in focus.

Adjusting the Focus

Adjusting the Red and Blue Focus

3 Adjusting the red lens focus

1 Reset the centering adjustment data of the red signal.
For details, see "Resetting the data" on page 100 (EN).

2 Press the PATTERN key until the H-pattern is displayed.

3 Press the CUT OFF G and B keys to display the red signal only.

4 Loosen the R1 screw, slide it so that the letters H at the center of the screen are in focus, then tighten the screw.
For details, see "Adjusting the green lens focus" on page 62 (EN).

5 Loosen the R2 screw, slide it so that the letters H at all four corners of the screen are in focus, then tighten the screw.
Repeat steps **4** and **5** until the red focus adjustment is completed.

Proceed to adjust flapping of the red lens.

4 Adjusting flapping of the red lens

After adjusting the red lens focus, adjust flapping of the red lens (angle of the red CRT).
Check the tilt of the focal surfaces at the upper, lower, left and right parts of the screen, then adjust the focus with the H and V screws on the red CRT.
For details, see "Adjusting flapping of the green lens" on page 64 (EN).

Proceed to the blue lens focus adjustment if the red signal is completely in focus.

5 Adjusting the blue lens focus

1 Reset the centering adjustment data of the blue signal.
For details, see "Resetting the data" on page 100 (EN).

2 Press the PATTERN key until the H-pattern is displayed.

3 Press the CUT OFF G and R keys to display the blue signal only.

4 Loosen the B1 screw, slide it so that the letters H at the center of the screen are in focus, then tighten the screw.
For details, see "Adjusting the green lens focus" on page 62 (EN).

5 Loosen the B2 screw, slide it so that the letters H at all four corners of the screen are in focus, then tighten the screw.
Repeat steps **4** and **5** until the blue focus adjustment is completed.

Proceed to adjust flapping of the blue lens.

6 Adjusting flapping of the blue lens

After adjusting the blue lens focus, adjust flapping of the blue lens (angle of the blue CRT).
Check the tilt of the focal surfaces at the upper, lower, left and right parts of the screen, then adjust the focus with the H and V screws on the blue CRT.
For details, see "Adjusting flapping of the green lens" on page 64 (EN).

Proceed to adjust the registration if the blue signal is completely in focus.

Adjusting the Registration

Procedure

① Mark the center of the screen. *(page 69 (EN))*

↓

② Set the remote control to the serviceman adjustment mode. *(page 37 (EN))*

↓

③ Select NO INPUT mode. *(page 69 (EN))*

↓

④ Select the internal oscillation pattern to be used for the registration adjustment. *(page 69 (EN))*

↓

⑤ Reset the registration data to the factory preset levels. (Only if the adjustment data has been modified before) *(page 100 (EN))*

↓

⑥ Adjust the green registration. *(pages 71 (EN) to 79 (EN))*
1 CENT adjustment
2 SIZE and LIN adjustments
3 SKEW and BOW adjustments
4 KEY and PIN adjustments
5 KEY BALANCE and PIN BALANCE adjustments

↓

⑦ Adjust the red registration. *(pages 80 (EN) to 88 (EN))*
1 CENT adjustment
2 SIZE and LIN adjustments
3 SKEW and BOW adjustments
4 KEY and PIN adjustments
5 KEY BALANCE and PIN BALANCE adjustments
6 ZONE adjustment

↓

⑧ Adjust the blue registration. *(page 89 (EN))*
1 CENT adjustment
2 SIZE and LIN adjustments
3 SKEW and BOW adjustments
4 KEY and PIN adjustments
5 KEY BALANCE and PIN BALANCE adjustments
6 ZONE adjustment

↓

⑨ Save the adjusted data as the standard data. *(page 90 (EN))*

↓

⑩ Adjust fine for each input signal. *(pages 91 (EN) to 97 (EN))*
1 Adjustment of video input signal
2 Adjustment of RGB input signal
3 White balance adjustment

↓

⑪ Activate the protection of the remote control. *(page 102 (EN))*

↓

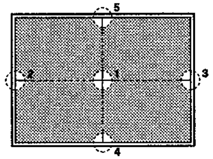
⑫ Adjust the picture. *(page 103 (EN))*

↓

Complete

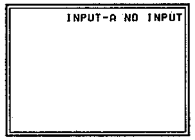
Preparation

1 Mark the center of the screen.
Measure the height and width of the screen to determine the center.
Marking five points with white tape, as illustrated below, will help you adjust registration.



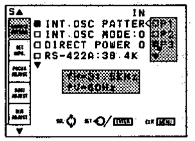
2 Set the remote control to the serviceman adjustment mode.
For details, see "For Remote Control" on page 37 (EN).

3 Press one of the INPUT SELECT keys corresponding to a line that is not connected to a signal so that "NO INPUT" appears.
Or, set the SWITCHER/INDEX select switch to SWITCHER and then press the number key from 1 to 8, corresponding to a line that is not connected to a signal.



INPUT-A NO INPUT

4 Display the SERVICE SETTING menu, select INT. OSC PATTERN, then select the frequency to be used for the adjustment.
For details, see "The SERVICE SETTING Menu" on page 54 (EN).



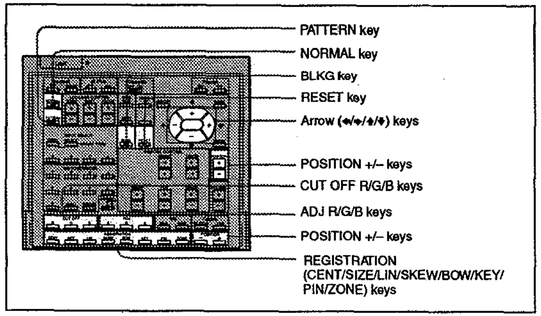
■ INT.OSC PATTER
☐ INT.OSC MODE:0
☐ DIRECT POWER 0
☐ RS-422A:38.4K

5 Reset the standard data to the factory preset level.
(Only when you have adjusted the registration and have saved the adjustment data.)
For details, see "Resetting the Data" on page 100 (EN).

Notes

- The center of the screen and the center of the CROSS HAIR pattern can be aligned by performing the centering adjustment.
  For details, see "Green CENT (centering) adjustment" on page 71 (EN).
- When the optical axis angle is smaller, the HATCH pattern becomes trapezoidal. Perform the KEY (keystone) adjustment to correct the distortion.
  For details, see "Green KEY and PIN adjustments" on page 76 (EN).

Keys for Adjusting


PATTERN key
NORMAL key
BLKG key
RESET key
Arrow (←/→/↑/↓) keys
POSITION +/– keys
CUT OFF R/G/B keys
ADJ R/G/B keys
POSITION +/– keys
REGISTRATION (CENT/SIZE/LIN/SKEW/BOW/KEY/PIN/ZONE) keys

Indications on the REGISTRATION keys and the adjustment items

Indicated on the control	Adjustment Items
CENT	Centering
SIZE	Size
LIN	Linearity
SKEW	Skew
BOW	Bow
KEY	Keystone, Keystone balance
PIN	Pincushion, Pincushion balance
ZONE	Zone

Adjusting the Green Registration

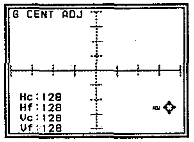
Be sure to adjust the green registration first.

When adjusting green, do not greatly change the ZONE adjustment. If you change the green ZONE in the large range considerably, the adjustment for red and blue may be difficult.

1 Green CENT (centering) adjustment

Adjust so that the center of the test pattern is aligned with the center of the screen.

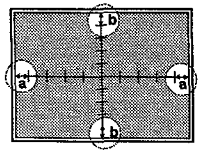
1. Press the CENT key.
   The CROSS HAIR pattern and the cursor appear.
2. Press the ADJ G key.
3. Press the CUT OFF R and B keys to display green only.
4. Press the arrow keys to align the center of the CROSS HAIR pattern with the center of the screen.


G CENT ADJ
Hc:128
Hf:128
Vc:128
Vf:128

Notes

- If the test pattern is off-centered by a large amount, check if the projector is installed or adjusted correctly.
- If the upper, lower, left or right part of the screen is de-focused, check if flapping of the lenses is adjusted correctly.
  For details, see "Adjusting flapping of the green lens" on page 64 (EN).

2 Green SIZE and LIN (linearity) adjustment

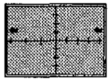


Adjust the picture size with respect to the screen, and the picture's up, down, left and right balance.

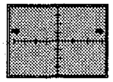
1 Press the LIN key.
The CROSS HAIR pattern appears.
You can also change to the 9 × 9 HATCH pattern by pressing the PATTERN key.

2 Press the ADJ G key.
Pay attention only to the encircled portions illustrated on the left.

3 Adjust with the ← and → keys until parts (ⓐ) (distances from the right and left ends of the screen to the first vertical lines) are of equal length.



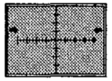
← : The left and right vertical lines are shifted to the left while the vertical center line remains unmoved.



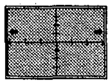
→ : The left and right vertical lines are shifted to the right while the vertical center line remains unmoved.

4 Press the SIZE key.

5 Adjust with the ← and → keys until parts (ⓐ) on the left and right are 15 to 20 mm long.



← : The horizontal scale is reduced.



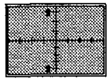
→ : The horizontal scale is expanded.

6 If they are not aligned, press the LIN key and repeat steps **3** to **5**.

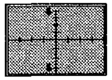
7 If the CROSS HAIR pattern is off-centered on the screen, adjust the centering again and repeat steps **1** to **6** for the horizontal scale adjustment.
For details of the centering adjustment, see "Green CENT (centering) adjustment" on page 71 (EN).

8 Press the LIN key.

9 Adjust with the ↑ and ↓ keys until parts (ⓑ) (distances from the top and bottom ends of the screen to the first horizontal lines) are of equal length.



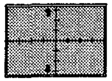
↑ : The upper and lower horizontal lines are shifted upward while the horizontal center line remains unmoved.



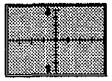
↓ : The upper and lower horizontal lines are shifted downward while the horizontal center line remains unmoved.

10 Press the SIZE key.

11 Adjust with the ↑ and ↓ keys until parts (ⓑ) at the top and bottom are about 15 to 20 mm long.



↑ : The vertical scale is expanded.



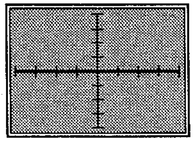
↓ : The vertical scale is reduced.

12 If they are not aligned, repeat steps **8** to **11**.

13 If the CROSS HAIR pattern is off-centered on the screen, adjust the centering again and then repeat steps **8** to **12** for the vertical scale adjustment.
For details of the centering adjustment, see "Green CENT (centering) adjustment" on page 71 (EN).

3 Green SKEW and BOW adjustments

Adjust the bow-like or skew distortion of the horizontal and vertical center lines to make them parallel to the screen edges.

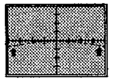


A Horizontal line adjustment

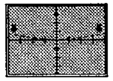
If the horizontal line of the picture is as shown by the dotted line in the illustrations below, adjust it with the corresponding arrow key so that it is perpendicular to the vertical line (bold line illustrated on the left).

1 Press the BOW key.
The CROSS HAIR pattern appears.
You can also change to the 9 × 9 HATCH pattern by pressing the PATTERN key.

2 Adjust the distortion as illustrated below with the ↑ and ↓ keys.



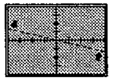
↑ : The left and right ends of the horizontal line curve upward while the center remains unchanged.



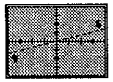
↓ : The left and right ends of the horizontal line curve downward while the center remains unchanged.

3 Press the SKEW key.

4 Adjust the distortion as illustrated below with the ↑ and ↓ keys.

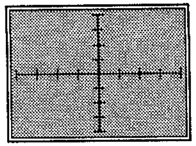


↑ : The horizontal line rotates counter-clockwise, rotating around the center.



↓ : The horizontal line rotates clockwise, rotating around the center.

5 Repeat steps **1** to **4** until the horizontal lines become parallel to the screen edges.

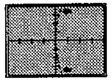


B Vertical line adjustment

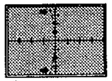
If the vertical line of the picture is as shown by the dotted line in the illustrations below, adjust it with the corresponding arrow key so that it is perpendicular to the horizontal line (bold line illustrated on the left).

1 Press the BOW key.
The CROSS HAIR pattern appears.
You can also change to the 9 × 9 HATCH pattern by pressing the PATTERN key.

2 Adjust the distortion as illustrated below with the ← and → keys.



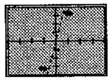
← : The upper and lower ends of the vertical line curve towards the left while the center remains unchanged.



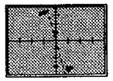
→ : The upper and lower ends of the vertical line curve towards the right while the center remains unchanged.

3 Press the SKEW key.

4 Adjust the distortion as illustrated below with the ← and → keys.



← : The vertical line rotates counter-clockwise, rotating around the center.

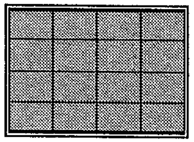


→ : The vertical line rotates clockwise, rotating around the center.

5 Repeat steps **1** to **4** until the vertical lines become parallel to the screen edges.

4 Green KEY (keystone) and PIN (pincushion) adjustments

Adjust the trapezoidal distortion and the pin-cushion distortion in the vertical and horizontal directions.

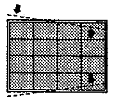


A Horizontal line adjustment

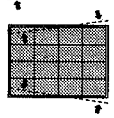
If the picture's borders are as shown by the dotted line in the illustrations below, adjust them with the corresponding arrow key so that they are parallel (bold lines illustrated on the left).

1 Press the KEY key.
The HATCH pattern appears.

2 Adjust the distortion as illustrated below with the ↑ and ↓ keys.



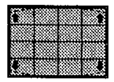
↑ : The lines spread apart on the right side and come together on the left side while the center remains unmoved.



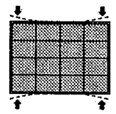
↓ : The lines spread apart on the left side and come together on the right side while the center remains unmoved.

3 Press the PIN key.

4 Adjust the distortion as illustrated below with the ↑ and ↓ keys.

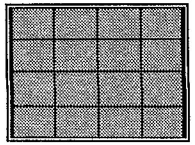


↑ : The ends of the top and bottom lines spread apart while the center remains unmoved.



↓ : The ends of the top and bottom lines come together while the center remains unmoved.

5 Repeat steps **1** to **4** until the horizontal lines become parallel to the screen edges.

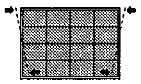


B Vertical line adjustment

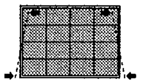
If the picture's bor ders are as shown by the dotted line in the illustrations below, adjust them with the corresponding arrow key so that they are parallel (bold lines illustrated on the left).

1 Press the KEY key.
The HATCH pattern appears.

2 Adjust the distortion as illustrated below with the ← and → keys.



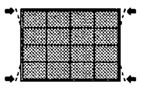
← : The lines spread apart at the bottom and come together at the top while the center remains unmoved.



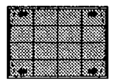
→ : The lines spread apart at the top and come together at the bottom while the center remains unmoved.

3 Press the PIN key.

4 Adjust the distortion as illustrated below with the ← and → keys.



← : The ends of the left and right side lines come together while the center remains unmoved.

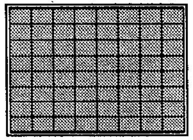


→ : The ends of the left and right lines spread apart while the center remains unmoved.

5 Repeat steps **1** to **4** until the vertical lines become parallel to the screen edges.

5 Green KEY (keystone) BALANCE and PIN (pincushion) BALANCE

Adjust the trapezoidal and pincushion distortion which may still remain even after completing the KEY and PIN adjustments.

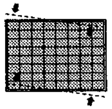


A Horizontal line adjustment

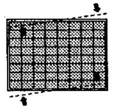
If the picture's borders are as shown by the dotted line in the illustrations below, adjust them with the corresponding arrow key so that they are parallel (bold lines illustrated on the left).

1 Press the KEY key twice.
The 9 × 9 HATCH pattern appears.

2 Adjust the distortion as illustrated below with the ↑ and ↓ keys.



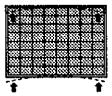
↑ : The right ends of the lines are raised and the left ends are lowered while the center remains unmoved.



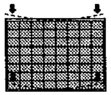
↓ : The left ends of the lines are raised and the right ends are lowered while the center remains unmoved.

3 Press the PIN key twice.

4 Adjust the distortion as illustrated below with the ↑ and ↓ keys.

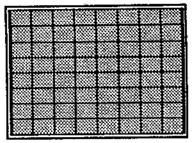


↑ : The ends of the top and bottom lines curve upward while the center remains unmoved.



↓ : The ends of the lines curve downward while the center remains unmoved.

5 Repeat steps **1** to **4** until the horizontal lines become parallel to the screen edges.

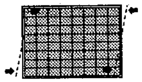


B Vertical line adjustment

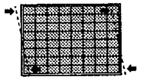
If the picture's borders are as shown by the dotted line in the illustrations below, adjust them with the corresponding arrow key so that they are parallel (bold lines illustrated on the left).

1 Press the KEY key twice.
The 9 × 9 HATCH pattern appears.

2 Adjust the distortion as illustrated below with the ← and → keys.



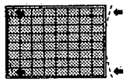
←: The upper ends of the lines move towards the left and the lower ends move towards the right while the center remains unmoved.



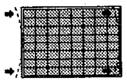
→: The upper ends of the lines move towards the right and the lower ends move towards the left while the center remains unmoved.

3 Press the PIN key twice.

4 Adjust the distortion as illustrated below with the ← and → keys.



←: The upper and lower ends of the lines curve towards the left while the center remains unmoved.



→: The upper and lower ends of the lines curve towards the right while the center remains unmoved.

5 Repeat steps **1** to **4** until the vertical lines become parallel to the screen edges.

6 After the adjustment is complete, press the MEMORY key to save the adjustment data.

The green registration adjustment is all completed.
Proceed to the adjustment for the red signal.

Adjusting the Red Registration

Adjust the red signal so that it converges with the green signal and is seen as yellow.

Note

When you have adjusted the red registration data and have saved the adjustment data, reset the red centering to the factory preset level.
For the procedure to reset, see page 100 (EN).

6 Red CENT (centering) adjustment

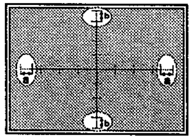
Adjust so that the center of the red CROSS HAIR pattern is aligned with that of the green CROSS HAIR pattern.

1. Press the CENT key.
   The CROSS HAIR pattern and the cursor appear.
2. Press the ADJ R key.
3. Press the CUT OFF B key to display green and red.
4. Press the arrow keys to align the center of the red CROSS HAIR pattern with that of the green pattern.

Notes

- If the red vertical line is not aligned with that of the green pattern, adjust the red CRT conversion angle again.
  For details, see "Adjusting the CRT Conversion Angle" on page 22 (EN).
- If the upper, lower, left or right part of the screen is de-focused, adjust flapping of the red lens again.
  For details, see "Adjusting flapping of the red lens" on page 66 (EN).

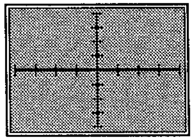
7 Red SIZE and LIN (linearity) adjustments



1. Press the LIN key.
   The CROSS HAIR pattern appears.
   You can also change to the 9 × 9 HATCH pattern by pressing the PATTERN key.
2. Press the ADJ R key.
   Pay attention only to the encircled portions in the illustration on the left.
3. Adjust with the ← and → keys until the parts (ⓐ) on the left and right are of equal length.
   ←: The left and right vertical lines are shifted to the left while the vertical center line remains unmoved.
   →: The left and right vertical lines are shifted to the right while the vertical center line remains unmoved.
4. Press the SIZE key.
5. Adjust with the ← and → keys so that the red and green lines in the right and left encircled portions converge.
   ←: The horizontal scale is reduced.
   →: The horizontal scale is expanded.
6. If the lines do not converge, press the LIN key and repeat steps **3** to **5**.
7. If the CROSS HAIR pattern is off-centered on the screen, adjust the centering again and repeat steps **1** to **6** for the horizontal scale adjustment.
   For details of the centering adjustment, see "Red CENT (centering) adjustment" on page 80 (EN).
8. Press the LIN key.
9. Adjust with the ↑ and ↓ keys until parts (ⓑ) at the top and bottom are of equal length.
   ↑: The upper and lower horizontal lines are shifted upward while the horizontal center line remains unmoved.
   ↓: The upper and lower horizontal lines are shifted downward while the horizontal center line remains unmoved.
10. Press the SIZE key.
11. Adjust with the ↑ and ↓ keys so that the red and green lines at the top and bottom encircled portions converge.
    ↑: The vertical scale is expanded.
    ↓: The vertical scale is reduced.
12. If the lines do not converge, repeat steps **8** to **11**.
13. If the CROSS HAIR pattern is off-centered on the screen, adjust the centering again and repeat steps **8** to **12** for the vertical scale adjustment.
    For details of the centering adjustment, see "Red CENT (centering) adjustment" on page 80 (EN).

Adjusting the Registration

8 Red SKEW and BOW adjustments

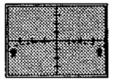


A Horizontal line adjustment

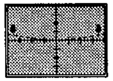
If the horizontal line of the picture is as shown by the dotted line in the illustrations below, adjust it with the corresponding arrow key so that it is perpendicular to the vertical line (bold line illustrated on the left).

1 Press the BOW key.
The CROSS HAIR pattern appears.
You can also change to the 9 × 9 HATCH pattern by pressing the PATTERN key.

2 Adjust the distortion as illustrated below with the ↑ and ↓ keys.



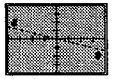
↑ : The left and right ends of the horizontal line curve upward while the center remains unchanged.



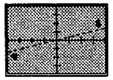
↓ : The right and left ends of the horizontal line curve downward while the center remains unchanged.

3 Press the SKEW key.

4 Adjust the distortion as illustrated below with the ↑ and ↓ keys.

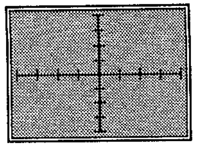


↑ : The horizontal line rotates counter-clockwise, rotating around the center.



↓ : The horizontal line rotates clockwise, rotating around the center.

5 Repeat steps **1** to **4** until the red horizontal line converges with the green line.

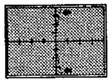


B Vertical line adjustment

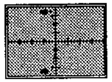
If the vertical line of the picture is as shown by the dotted line in the illustrations below, adjust it with the corresponding arrow key so that it is perpendicular to the vertical line (bold line illustrated on the left).

1 Press the BOW key.
The CROSS HAIR pattern appears.
You can also change to the 9 × 9 HATCH pattern by pressing the PATTERN key.

2 Adjust the distortion as illustrated below with the ← and → keys.



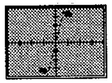
← : The upper and lower ends of the vertical line curve towards the left while the center remains unchanged.



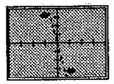
→ : The upper and lower ends of the vertical line curve towards the right while the center remains unchanged.

3 Press the SKEW key.

4 Adjust the distortion as illustrated below with the ← and → keys.



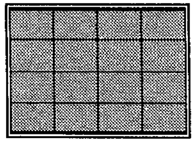
← : The vertical line rotates counter-clockwise, rotating around the center.



→ : The vertical line rotates clockwise, rotating around the center.

5 Repeat steps **1** to **4** until the red vertical line converges with the green line.

9 Red KEY (keystone) and PIN (pincushion) adjustments

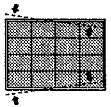


A Horizontal line adjustment

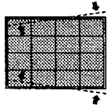
If the picture's borders are as shown by the dotted line in the illustrations below, adjust them with the corresponding arrow key so that they are parallel (bold lines illustrated on the left).

1 Press the KEY key.
The HATCH pattern appears.

2 Adjust the distortion as illustrated below with the ↑ and ↓ keys.



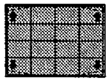
↑ : The lines spread apart on the right side and come together on the left side while the center remains unmoved.



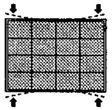
↓ : The lines spread apart on the left side and come together on the right side while the center remains unmoved.

3 Press the PIN key.

4 Adjust the distortion as illustrated below with the ↑ and ↓ keys.

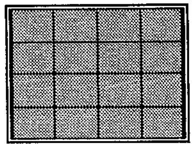


↑ : The ends of the top and bottom lines spread apart while the center remains unmoved.



↓ : The ends of the top and bottom lines come together while the center remains unmoved.

5 Repeat steps **1** to **4** until the red horizontal lines converge with the green lines.

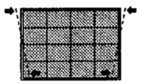


B Vertical line adjustment

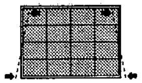
If the picture's borders are as shown by the dotted line in the illustrations below, adjust them with the corresponding arrow key so that they are parallel (bold lines illustrated on the left).

1 Press the KEY key.
The HATCH pattern appears.

2 Adjust the distortion as illustrated below with the ← and → keys.



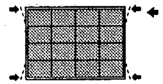
← : The lines spread apart at the bottom and come together at the top while the center remains unmoved.



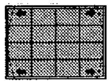
→ : The lines spread apart at the top and come together at the bottom while the center remains unmoved.

3 Press the PIN key.

4 Adjust distortion as illustrated below with the ← and → keys.



← : The ends of the left and right side lines come together while the center remains unmoved.

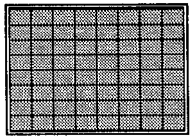


→ : The ends of the left and right lines spread apart while the center remains unmoved.

5 Repeat steps **1** to **4** until the red vertical lines converge with the green lines.

10 Red KEY (keystone) BALANCE and PIN (pincushion) BALANCE

Adjust the trapezoidal and pincushion distortion which may still remain even after completing the KEY and PIN adjustments.

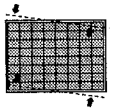


A Horizontal line adjustment

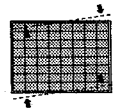
If the picture's borders are as shown by the dotted line in the illustrations below, adjust them with the corresponding arrow key so that they are parallel (bold lines illustrated on the left).

1 Press the KEY key twice.
The 9 × 9 HATCH pattern appears.

2 Adjust the distortion as illustrated below with the ↑ and ↓ keys.



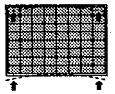
↑ : The right ends of the lines are raised and the left ends are lowered while the center remains unmoved.



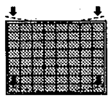
↓ : The left ends of the lines are raised and the right ends are lowered while the center remains unmoved.

3 Press the PIN key twice.

4 Adjust the distortion as illustrated below with the ↑ and ↓ keys.

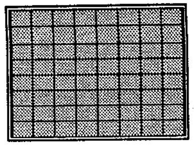


↑ : The ends of the top and bottom lines curve upward while the center remains unmoved.



↓ : The ends of the lines curve downward while the center remains unmoved.

5 Repeat steps **1** to **4** until the red horizontal lines converge with the green lines.

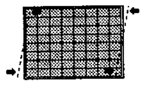


B Vertical line adjustment

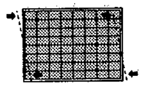
If the picture's borders are as shown by the dotted line in the illustrations below, adjust them with the corresponding arrow key so that they are parallel (bold lines illustrated on the left).

1 Press the KEY key twice.
The 9 × 9 HATCH pattern appears.

2 Adjust the distortion as illustrated below with the ← and → keys.



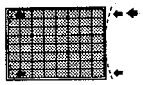
← : The upper ends of the lines move towards the left and the lower ends move towards the right while the center remains unmoved.



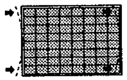
→ : The upper ends of the lines move towards the right and the lower ends move towards the left while the center remains unmoved.

3 Press the PIN key twice.

4 Adjust the distortion as illustrated below with the ← and → keys.



← : The upper and lower ends of the lines curve towards the left while the center remains unmoved.



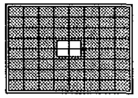
→ : The upper and lower ends of the lines curve towards the right while the center remains unmoved.

5 Repeat steps **1** to **4** until the red vertical lines converge with the green lines.

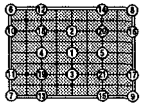
11 Red ZONE adjustment

Adjust red ZONE after the red lines have converged with the green lines by performing the adjustments 6 to 10.

1 Press the ZONE key.
The 9 × 9 HATCH pattern and the cursor appear.



2 Press the POSITION +/– keys to select the part to be adjusted.
When you press the + key, the cursor moves in the numerical order as illustrated.
When you press the – key, the cursor moves in the reverse order.
The selected position number appears at the upper right corner.



If you press the ZONE key again in ZONE adjustment mode, you can move the cursor to the desired position with the ↑, ↓, ←, → keys. When you press the ZONE key again after selecting the position, the projector enters the adjustment mode of that postion.

3 Adjust the red line distortion in the cursor positioning area with the arrow keys.

4 After the adjustment is complete, press the MEMORY key to save the adjustment data.

The red registration adjustment is complete.
Proceed to the registration adjustment of the blue signal.

Adjusting the Blue Registration

Adjust the blue signal so that it converges with the red signal which has been adjusted. When the blue and red test patterns converge, the pattern is seen as magenta.

Note

When you have adjusted the blue registration data and have saved the adjustment data, reset the blue centering to the factory preset level.
For the procedure to reset, see page 100 (EN).

12 Blue CENT (centering) adjustment

Adjust so that the center of the blue CROSS HAIR pattern is aligned with that of the red pattern.

1 Press the CENT key.
The CROSS HAIR pattern and the cursor appear.

2 Press the ADJ B key.

3 Press the CUT OFF G key to display blue and red.

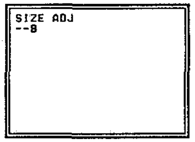
4 Press the arrow keys to align the center of the blue CROSS HAIR pattern with that of the red pattern.

Notes

- If the blue vertical lines are not aligned with those of the red pattern, adjust the CRT conversion angle again.
For details, see "Adjusting the CRT Conversion Angle" on page 22 (EN).
- If the upper, lower, left or right part of the screen is de-focused, adjust flapping of the lens again.
For details, see "Adjusting flapping of the green lens" on page 64 (EN).

13 Blue SIZE, LIN (linearity), SKEW, BOW, KEY (keystone), PIN (pincushion) KEY BALANCE, PIN BALANCE and ZONE adjustments

Adjust so that the blue signal converges with the red signal in each adjustment. The procedures are the same as for adjusting the red registration.
For details, see pages 80 (EN) to 88 (EN).
Make sure that "– – B" appears on the screen when adjusting the blue signal.



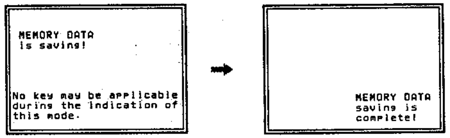
```
SIZE ADJ
--B
```

The blue adjustment is complete. Save the adjustment data as the standard data.

Saving the Standard Registration Data

After adjusting all the registrations for the green, red and blue signals, save the adjustment data as the standard data for the projector.

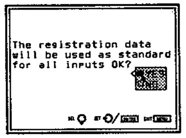
1 Press the MEMORY key and release it.
The adjustment data is saved in the memory as the data for the frequency selected in INT. OSC PATTERN of the SERVICE SETTING menu.



```
MEMORY DATA
is saving!

No key may be applicable
during the indication of
this mode.
```

```
MEMORY DATA
saving is
complete!
```

2 Hold down the MEMORY key for more than 5 seconds.
The message and the pop-up menu appear and the projector enters the standard data saving mode.



```
The registration data
will be used as standard
for all inputs OK?
```

3 Press the ⬇ or ⬆ key to select YES, then press the ENTER key.
All the registration data will be converted into internal signal data and are saved as standard data.

Notes

- No keys function while the data is being saved.
- If the adjustment data is saved as the standard data, the registration data stored in INPUT MEMORY will be converted into the standard data.

Fine Adjustment for Each Input Signal

After the registration adjustment is performed without an input source and the adjustment data is saved as the standard data, input an external signal and fine adjust for each input signal.

Adjusting the Video Input Signal

1 Input the video signal to the VIDEO IN connector on the projector or to the signal interface board installed to the INPUT B section.

2 Select the video input source by pressing the INPUT SELECT VIDEO and SELECT keys or the INPUT SELECT B key on the remote control.

3 Display the INPUT INFO menu to check that the horizontal frequency of the input signal (fH) indicates 15.7 kHz.
To display the INPUT INFO menu, press the MENU key, select INPUT INFO with the ⬆ or ⬇ key, then press the ENTER key.

Fine registration adjustment

1 Press the PATTERN key to display the CROSS HAIR pattern.

2 If necessary, fine adjust the registrations.
For details of the adjustment procedure, see "Adjusting the Registration" on pages 68 (EN) to 89 (EN).

3 Press the MEMORY key and release it to save the adjustment data.

Note

Do not hold down the MEMORY key in step 3.

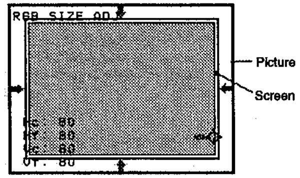
Fine Adjustment for Each Input Signal

SIZE adjustment

Adjust the picture size if it does not fit the screen.

1 Press the RGB SIZE key.
(Use the RGB SIZE key even for the signal other than RGB.)

2 Adjust the picture size with the arrow keys.
↑ :The vertical size is expanded.
↓ :The vertical size is reduced.
→ :The horizontal size is expanded.
← :The horizontal size is reduced.



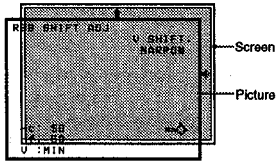
3 Press the MEMORY key to save the adjustment data.

SHIFT adjustment

If the picture needs to be shifted to fit the screen, adjust the position of the picture.

1 Press the RGB SHIFT key.
(Use the RGB SHIFT key even for the signal other than RGB.)

2 Adjust the shift with the arrow keys.
↑ :The picture is shifted upward.
↓ :The picture is shifted downward.
→ :The picture is shifted rightward.
← :The picture is shifted leftward.



Note
When the video signal is input, V SHIFT is automatically fixed to NARROW and the adjustable range of the horizontal shift will become narrower than that of the RGB signal.

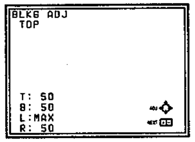
3 Press the MEMORY key to save the adjustment data.

Blanking adjustment

If the displayed picture is larger than the screen, cut off the excess parts.

1 Press the BLKG key.

2 Press the POSITION +/– keys to select the part to be adjusted.
- When you press the + key, the position cycles through the following order:
  TOP → BOTTOM → LEFT → RIGHT → TOP...
- When you press the – key, the position cycles in reverse order.



3 Adjust with the arrow keys.
- Press the ↑ and ↓ keys to adjust the TOP and BOTTOM positions.
- Press the ← and → keys to adjust the LEFT and RIGHT positions.

4 Press the MEMORY key to save the adjustment data.

Note
When you connect multiple video input sources to the projector2, such as when using the switcher, adjust the picture size, picture shift and blanking for each input connector.

Adjusting the RGB Input Signal

1 Input the RGB signal to the INPUT A connectors on the projector or to the signal interface board installed to the INPUT B section.

2 Press the INPUT SELECT A or B key on the remote control to select the RGB input signal.

3 Fine adjust the registration if necessary.
For details, see "Adjusting the Registration" on pages 68 (EN) to 90 (EN).

Fine Adjustment for Each Input Signal

Fine registration adjustment

1 Press the PATTERN key to display the CROSS HAIR pattern.

2 If necessary, fine adjust the registration.
For details, see "Adjusting the Registration" on pages 68 (EN) to 90 (EN).

3 When you connect two or more RGB input sources, fine adjust the registration for each input signal.

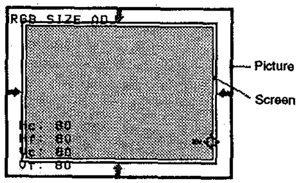
4 Press the MEMORY key and release it to save the adjustment data.

SIZE adjustment

Adjust the picture size if it does not fit the screen.

1 Press the RGB SIZE key.

2 Adjust the picture size with the arrow keys.
▲ :The vertical size is expanded.
▼ :The vertical size is reduced.
▶ :The horizontal size is expanded.
◀ :The horizontal size is reduced.



3 Press the MEMORY key to save the adjustment data.

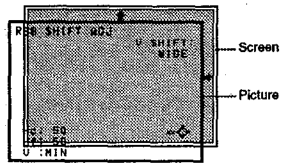
SHIFT adjustment

If the picture needs to be shifted to fit the screen, adjust the RGB SHIFT.

1 Press the RGB SHIFT key.

2 Select the adjustable range of the vertical shift (V SHIFT) with the POSITION +/– keys.
WIDE: Normally, set to this position.
NARROW: Set to this position to make the adjustable range in the vertical direction narrow.

3 Adjust the shift with the arrow keys.
▲ :The picture is shifted upward.
▼ :The picture is shifted downward.
▶ :The picture is shifted rightward.
◀ :The picture is shifted leftward.



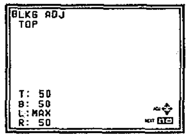
4 Press the MEMORY key to save the adjustment data.

Blanking adjustment

If the displayed picture is larger than the screen, cut off the excess parts.

1 Press the BLKG key.

2 Press the POSITION +/– keys to select the part to be adjusted.
- When you press the + key, the position cycles through the following order:
  TOP → BOTTOM → LEFT → RIGHT → TOP ...
- When you press the – key, the position cycles in reverse order.



3 Adjust with the arrow keys.
- Press the ▲ and ▼ keys to adjust the TOP and BOTTOM positions.
- Press the ◀ and ▶ keys to adjust the LEFT and RIGHT positions.

4 Press the MEMORY key to save the adjustment data.

Note

When you connect two or more RGB input sources to the projector, such as when using the switcher, adjust the picture size, picture shift and blanking for each RGB signal that has a different characteristic. The characteristics are shown in the INPUT INFO menu.

Adjusting the White Balance

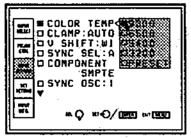
The color temperatures are preset at the factory to 9300K, 6500K, 5400K and 3200K. However, if you change these levels or set a color temperature other than the factory preset levels, you can adjust the white balance and save it in the memory.

Setting the white balance

1 Press the MENU key, select INPUT SETTING with the ↑ or ↓ key, then press the ENTER key.
The INPUT SETTING menu is displayed.

2 Press the ↑ or ↓ key to select COLOR TEMP, then press the ENTER key.

3 Press the ↑ or ↓ key to select the desired color temperature, then press the ENTER key.



Normally set to 6500.
Select the appropriate color temperature according to your application and the picture source.

4 Press the MEMORY key to save the adjustment data.

Adjusting the white balance

If you wish to make the color of a particular input signal (eg. HDTV system picture) uniform to that of the color monitor, you can adjust the white balance.
Display the same input signal on the projector and the monitor.

Adjusting the black level (BIAS adjustment)

1 Reset the CONTRAST level to 80 and BRIGHT level to 50.
For details, see "Adjusting the Picture Quality" on page 103 (EN).

2 Press the W/B BIAS key.
The PLUGE pattern appears. Press the PATTERN key repeatedly to display the external signal.

3 Press the ADJ R, G or B key to select the color to be adjusted.
When selecting the color, pay attention to the black part of the picture displayed on the screen and note which color stands out compared to that of the monitor.

4 Press the ← or → key so that the black part in the picture on the screen looks the same as that of the monitor.
If the brightness of that part does not look the same as that of the monitor, adjust the other colors by pressing the ADJ R, G or B key and the ← or → key.

5 Press the MEMORY key to save the adjustment data.

Adjusting the white level (GAIN adjustment)

1 Reset the CONTRAST level to 80 and BRIGHT level to 50.
For details, see "Adjusting the Picture Quality" on page 103 (EN).

2 Press the W/B GAIN key.
When the GAIN adjustment is followed by the BIAS adjustment, the external signal appears automatically.
When you start with the GAIN adjustment, the stair step pattern appears. Press the PATTERN key repeatedly to display the external signal.

3 Press the ADJ R, G or B key to select the color to be adjusted.
When selecting the color, pay attention to the white part of the picture displayed on the screen and note which color stands out compared to that of the monitor.

4 Press the ← or → key so that the white part in the picture on the screen looks the same as that of the monitor.
If the brightness does not look the same as that of the monitor, adjust the other colors by pressing the ADJ R, G or B key and the ← or → key.

5 Press the MEMORY key to save the adjustment data.

When using multiple projectors

Input the same signal to the base projector and the projector to be adjusted. Set COLOR TEMP in the INPUT SETTING menu to the same position on both projectors, and then follow the procedures described above to make the black and white colors uniform between the base projector and the projector to be adjusted.

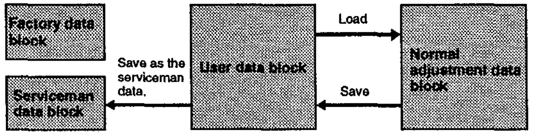
Notes

- When adjusting the white balance, use the external color monitor for the reference of the color.
- To adjust the white balance easily without the on-screen display, press the STATUS OFF key on the remote control or set the STATUS option in the SET SETTING menu to OFF.
- You can adjust the white balance more easily if you set the color level to MIN to display the black and white picture.

Saving the Adjustment Data

Memory structure

The memory structure of this projector consists of three memory blocks and a normal adjustment data block.



Factory data block: The seven basic adjustment data for different types of signals shown in the table on page 99 (EN) are preset at the factory. The adjustment data in this block connot be changed.

Serviceman data block: The seven basic adjustment data for different types of signals shown in the table on page 99 (EN) are preset at the factory. The data saved in the user data block can be saved as the serviceman data.
For the procedure of how to save the SERVICEMAN DATA, see page 102 (EN).

User data block: The seven basic adjustment data for different types of signals shown in the table on page 99 (EN) are preset at the factory. When a signal is input for the first time, one of the seven basic data that has the nearest frequency is automatically selected for the signal. If any of the data for the signal is adjusted, the data is saved as an input memory in one of the memory numbers 00 to 49. (If no data is adjusted, it is not saved.)
The adjustment data for each input signal, if any one of the signal input conditions—vertical or horizontal frequency, type of sync signal, type of input signal and input connector—is different, is saved in different memory number as an individual input memory.

Normal adjustment data block: The data during adjustment is temporarily saved in this block. When you press the ENTER or MEMORY key after adjustment, the adjustment data is stored in the user data block.

Standard registration data and the input memory

If the adjusted registration data is saved as the standard data after installing the projector, the registration data for all of the input memories will be changed to reflect the new data in that installation condition. Therefore, you can easily adjust the registration for each input signal.
For the procedure of how to save the standard data, see page 90 (EN).

Preset data at the factory

The projector presets seven types of basic data in memory numbers 00 to 06 of the factory data and serviceman data blocks.

Memory number	Horizontal frequency (fH)	Vertical frequency (fV)	Type of the input signal
00	15.7 kHz	60 Hz	Video ($NTSC_{3.58}$)
01	24.8 kHz	56 Hz	RGB
02	31.5 kHz	60 Hz	RGB
03	48.3 kHz	60 Hz	RGB
04	64.0 kHz	60 Hz	RGB
05	31.5 kHz	60 Hz	IDTV ($NTSC_{3.58}$)
06	33.8 kHz	60 Hz	HDTV ($Y/P_B/P_R$)

Memory architecture

The following adjustment data will be saved in three memory blocks.

Memory	Adjustment data	Number of memories
Input memory	Picture control (CONTRAST, BRIGHT, COLOR, HUE, SHARP) SIZE/SHIFT Blanking Color temperature Clamp position V SHIFT Registration	Memory numbers 00–49 (50 at maximum)
Color temperature memory	White balance (BIAS/GAIN data for each color temperature of each screen)	Four color temperature settings (9300K/6500K/5400K/3200K)
Setting memory	Baud rate, CRT timer, STATUS ON/OFF, language, index, video memory, etc.	One for each projector

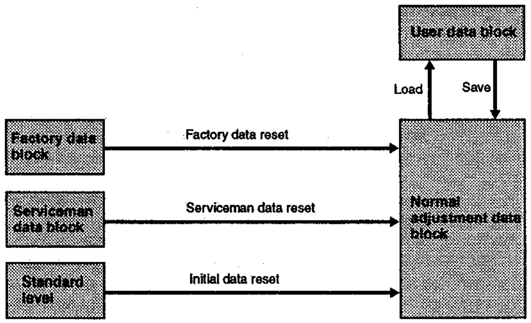
Resetting the Data

There are three ways to reset the data, as shown below.

Factory data reset
Resets to the factory preset data saved in the factory data block.

Serviceman data reset
Resets to the data saved in the serviceman data block.

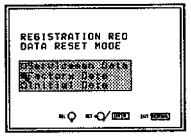
Initial data reset
Resets to the standard level.
For registration, white balance or blanking data, resets to the specified level.


User data block
Load
Save
Factory data block
Factory data reset
Serviceman data block
Serviceman data reset
Standard level
Initial data reset
Normal adjustment data block

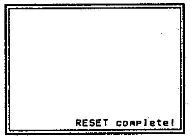
Resetting the data

1 Select the adjustment mode to be reset.

2 Press the RESET key.
The following display appears. (Example: To reset the red registration data to the factory preset data)


REGISTRATION RED
DATA RESET MODE
Serviceman Data
Factory Data
Initial Data

3 Press the ⬆ or ⬇ key to select the reset mode, then press the ENTER key.
To cancel reset mode, press the NORMAL key.

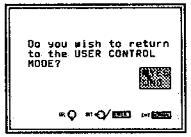

RESET complete!

All red registration adjustment data will be reset to the factory preset data.

Protecting the Setting

When you turn off the projector with the remote control, the adjustment keys become inoperable in order to prevent users from accidentally changing the adjustments (user mode).
It is also possible to make the keys inoperable while the power is on in the following way.

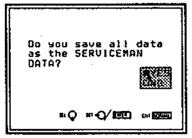
1 Press the keys on the remote control in the following order:
ENTER → ENTER → ↑ → ↓ → ENTER
The following display appears.



Do you wish to return to the USER CONTROL MODE?

2 Press the ↑ or ↓ key to select "YES," then press the ENTER key.

3 Select whether all the adjustment data are saved as the serviceman data.
Press the ↑ or ↓ key to select "YES" or "NO," then press the ENTER key.



Do you save all data as the SERVICEMAN DATA?

The adjustment keys on the remote control become inoperable (user mode).

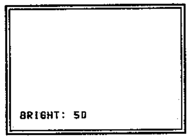
Adjusting the Picture Quality

Adjust the picture for your preference. The adjustment data can be saved in the memory.

1 Adjust with the PICTURE CONTROL +/– keys.

BRIGHT	Brightness
CONTR	Picture contrast
COLOR	Color intensity
HUE	Hue
SHARP	Sharpness

The adjustment levels are digitally displayed with a range of MIN, 1, 2, ... 99, MAX.



BRIGHT: 50

2 Press the MEMORY key to save the data.

Dynamic picture mode (only for the video or component input pictures)
You can get high-quality picture contrast by setting D.PICTURE to ON in the PIC CTRL menu.
For details, see "PIC CTRL (Picture Control) Menu" on page 45 (EN).

Restoring the initial data

1 Press the PICTURE CONTROL key of the item which you want to reset to the initial data.

2 Press the RESET key.
The selected item is reset to the initial data.

Notes
- The COLOR, SHARP and HUE keys do not function on the pictures input from the RGB IN connectors.
- The HUE and COLOR keys do not function if the input signal is black and white.
- The HUE key does not function with the PAL or SECAM color input source.

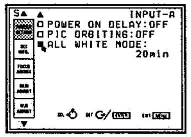
Changing the Initialization Period

You can set the desired warm up time for the projector in 1 minute increments.

1 Set the remote control to the serviceman adjustment mode.
For details, see "For Remote Control" on page 37 (EN).

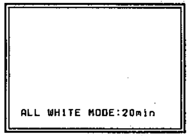
2 Press the MENU key, select SERVICE SETTING by pressing the ⬇ or ⬆ key, and press the ENTER key.
The SERVICE SETTING menu appears.

3 Press the ⬇ or ⬆ key to select ALL WHITE MODE (Page 2), then press the ENTER key.



```
S▲ ▲                  INPUT-A
   □ POWER ON DELAY:OFF
   □ PIC ORBITING:OFF
   ■ ALL WHITE MODE:
                      20min
```

4 Press the ⬆, ⬇, ⬅ or ➡ key to set the desired period.
You can set it to 0–99 minutes.



```
ALL WHITE MODE:20min
```

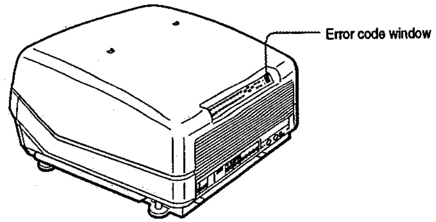
5 Press the MEMORY key to save the setting.

To cancel the setting
Press the MENU key in step **3**.

To set the projector so that the input signal from the connected equipment appears on the screen immediately after the power is turned on
Set the initialization period to "0" in step **4**.

About Error Codes

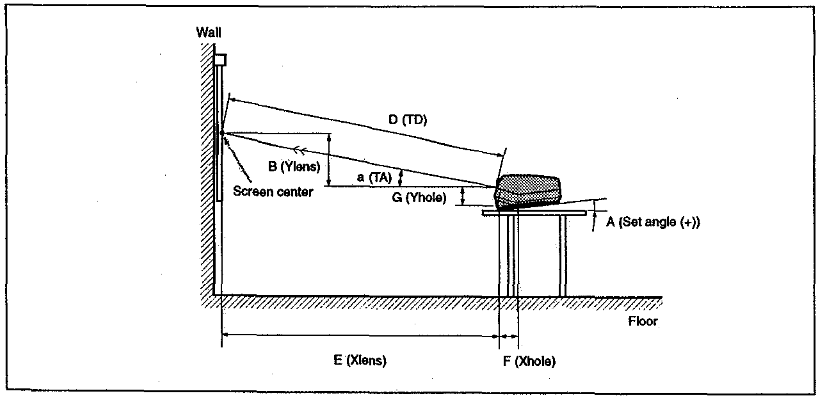
When a critical operational error occurs, the power will be automatically turned off and the error code will light up on the error code window inside the projector. You can check the code without removing the cover. Refer to the chart below for the meanings.



Error code	Item	Meaning
20	Unknown	Abnormalities that do not come under the errors below.
21	POW1	Abnormal in the ±25 V, ±15 V or 115 V line
22	POW2	Abnormal in the ±6 V, ±200 V or 115 V (HV) line
25	IFB	Abnormality of the interface board installed to the INPUT B section
27	POLE	The connector cover for polarity change does not shut completely.
29	A	Abnormality of the power line on the A board
30	D	Abnormality of the power line on the D board
33	HV	Abnormal high voltage
34	LOT	Abnormal load on a LOT of the PA board
35	H.STOP	Horizontal polarity is not correct.
36	V.STOP	Vertical polarity is not correct.
37	FAN	A fan inside the projector does not work.
40	Σ Ik	There is abnormality in the CRTs.

Notes
- When the error code lights up, the previous adjustment data way be cleared.
- The error code disappears when the MAIN POWER switch is turned off and the power cord is disconnected.
- The error code lights up every time the power is turned on until the critical operational error is returned to normal.

List of the Projection Distance by Angle of Optical Axis



Unit: mm (inches) for F Xhole and G Yhole onl

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
B/E	0.2408	0.2126	0.1944	0.1763	0.1584	0.1405	0.1228	0.1051	0.0875	0.1584	0.0524	0.0349	0.0175	0	-0.0175	-0.0349
A Angle	0.0°	1.5°	2.5°	3.5°	4.5°	5.5°	6.5°	7.5°	8.5°	9.5°	10.5°	11.5°	12.5°	13.5°	14.5°	15.5°
F Xhole	132 (5 1/4)	138 (5 1/2)	143 (5 3/4)	147 (5 7/8)	151 (6)	155 (6 1/8)	160 (6 3/8)	164 (6 1/2)	168 (6 5/8)	172 (6 7/8)	176 (7)	180 (7 1/8)	184 (7 1/4)	187 (7 3/8)	191 (7 5/8)	195 (7 3/4)
G Yhole	254 (10)	250 (9 7/8)	248 (9 7/8)	245 (9 3/4)	243 (9 5/8)	240 (9 1/2)	237 (9 3/8)	235 (9 3/8)	232 (9 1/4)	229 (9 1/8)	226 (9)	223 (8 7/8)	219 (8 5/8)	216 (8 5/8)	213 (8 1/2)	209 (8 1/4)

When using the 60 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	1902 (75)	1912 (75 3/8)	1918 (75 5/8)	1924 (75 3/4)	1929 (76)	1933 (76 1/8)	1937 (76 3/8)	1941 (76 1/2)	1943 (76 1/2)	1945 (76 5/8)	1947 (76 3/4)	1948 (76 3/4)	1948 (76 3/4)	1961 (77 1/4)	1969 (77 5/8)	1977 (77 7/8)
B Ylens	456 (18)	406 (16)	373 (14 3/4)	339 (13 3/8)	306 (12 1/8)	272 (10 3/4)	238 (9 3/8)	204 (8 1/8)	170 (6 3/4)	136 (5 3/8)	102 (4 1/8)	68 (2 3/4)	34 (1 3/8)	0 (0)	-34 (-1 3/8)	-69 (-2 3/4)
D TD	1956 (77 1/8)	1955 (77)	1954 (77)	1954 (77)	1953 (77)	1952 (76 7/8)	1952 (76 7/8)	1951 (76 7/8)	1951 (76 7/8)	1950 (76 7/8)	1949 (76 3/4)	1949 (76 3/4)	1948 (76 3/4)	1961 (77 1/4)	1970 (77 5/8)	1978 (77 7/8)

When using the 70 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	2179 (85 7/8)	2190 (86 1/4)	2197 (86 1/2)	2204 (86 7/8)	2210 (87 1/8)	2215 (87 1/4)	2219 (87 3/8)	2223 (87 5/8)	2226 (87 3/4)	2228 (87 3/4)	2230 (87 7/8)	2231 (87 7/8)	2231 (87 7/8)	2246 (88 1/2)	2256 (88 7/8)	2265 (89 1/4)
B Ylens	523 (20 5/8)	466 (18 3/8)	427 (16 7/8)	389 (15 3/8)	350 (13 7/8)	311 (12 1/4)	272 (10 3/4)	234 (9 1/4)	195 (7 3/4)	156 (6 1/4)	117 (4 5/8)	78 (3 1/8)	39 (1 9/16)	0 (0)	-39 (-1 9/16)	-79 (-3 1/8)
D TD	2240 (88 1/4)	2239 (88 1/4)	2239 (88 1/4)	2238 (88 1/8)	2237 (88 1/8)	2237 (88 1/8)	2236 (88 1/8)	2235 (88)	2234 (88)	2234 (88)	2233 (88)	2232 (88 7/8)	2232 (88 7/8)	2246 (88 1/2)	2256 (88 7/8)	2266 (89 1/4)

When using the 80 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	2459 (96 7/8)	2473 (97 3/8)	2481 (97 3/4)	2488 (98)	2494 (98 1/4)	2500 (98 1/2)	2505 (98 5/8)	2509 (98 7/8)	2513 (99)	2515 (99 1/8)	2517 (99 1/8)	2518 (99 1/4)	2519 (99 1/4)	2536 (99 7/8)	2546 (100 1/4)	2556 (100 3/4)
B Ylens	591 (23 3/8)	526 (20 3/4)	482 (19)	439 (17 3/8)	395 (15 5/8)	351 (13 7/8)	308 (12 1/4)	264 (10 1/2)	220 (8 3/4)	176 (7)	132 (5 1/4)	88 (3 1/2)	44 (1 3/4)	0 (0)	-44 (-1 3/4)	-89 (-3 5/8)
D TD	2529 (99 5/8)	2528 (99 5/8)	2527 (99 1/2)	2526 (99 1/2)	2525 (99 1/2)	2525 (99 1/2)	2524 (99 3/8)	2523 (99 3/8)	2522 (99 3/8)	2522 (99 3/8)	2521 (99 3/8)	2520 (99 1/4)	2519 (99 1/4)	2536 (99 7/8)	2547 (100 3/8)	2558 (100 3/4)

When using the 90 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	2738 (107 7/8)	2753 (108 1/2)	2762 (108 3/4)	2770 (109 1/8)	2777 (109 3/8)	2783 (109 5/8)	2789 (109 7/8)	2794 (110)	2797 (110 1/8)	2800 (110 1/4)	2803 (110 3/8)	2804 (110 1/2)	2804 (110 1/2)	2823 (111 1/4)	2835 (111 5/8)	2846 (112 1/8)
B Ylens	658 (26)	585 (23 1/8)	537 (21 1/4)	488 (19 1/4)	440 (17 3/8)	391 (15 1/2)	342 (13 1/2)	294 (11 5/8)	245 (9 3/4)	196 (7 3/4)	147 (5 7/8)	98 (3 7/8)	49 (1 15/16)	0 (0)	-49 (-1 15/16)	-99 (-4)
D TD	2816 (110 7/8)	2814 (110 7/8)	2813 (110 3/4)	2813 (110 3/4)	2812 (110 3/4)	2811 (110 3/4)	2810 (110 3/4)	2809 (110 5/8)	2808 (110 5/8)	2807 (110 5/8)	2806 (110 1/2)	2805 (110 1/2)	2805 (110 1/2)	2823 (111 1/4)	2835 (111 5/8)	2848 (112 1/4)

When using the 100 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	3016 (118 3/4)	3033 (119 1/2)	3043 (119 7/8)	3052 (120 1/4)	3060 (120 1/2)	3067 (120 3/4)	3073 (121)	3078 (121 1/4)	3082 (121 3/8)	3085 (121 1/2)	3088 (121 5/8)	3089 (121 5/8)	3090 (121 3/4)	3110 (122 1/2)	3124 (123)	3136 (123 1/2)
B Ylens	726 (28 5/8)	645 (25 1/2)	591 (23 3/8)	538 (21 1/4)	485 (19 1/8)	431 (17)	377 (14 7/8)	324 (12 7/8)	270 (10 3/4)	216 (8 5/8)	162 (6 1/2)	108 (4 3/8)	54 (2 1/4)	0 (0)	-55 (-2 1/4)	-110 (-4 3/8)
D TD	3102 (122 1/4)	3101 (122 1/8)	3100 (122 1/8)	3099 (122 1/8)	3098 (122)	3097 (122)	3096 (122)	3095 (121 7/8)	3094 (121 7/8)	3093 (121 7/8)	3092 (121 3/4)	3091 (121 3/4)	3090 (121 3/4)	3110 (122 1/2)	3124 (123)	3138 (123 5/8)

When using the 110 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	3294 (129 3/4)	3312 (130 1/2)	3323 (130 7/8)	3332 (131 1/4)	3341 (131 5/8)	3349 (131 7/8)	3355 (132 1/8)	3361 (132 3/8)	3366 (132 5/8)	3369 (132 3/4)	3372 (132 7/8)	3373 (132 7/8)	3374 (132 7/8)	3396 (133 3/4)	3411 (134 3/8)	3424 (134 7/8)
B Ylens	793 (31 1/4)	704 (27 3/4)	646 (25 1/2)	588 (23 1/4)	529 (20 7/8)	471 (18 5/8)	412 (16 1/4)	353 (14)	294 (11 5/8)	236 (9 3/8)	177 (7)	118 (4 3/4)	59 (2 3/8)	0 (0)	-60 (-2 3/8)	-120 (-4 3/4)
D TD	3388 (133 1/2)	3386 (133 3/8)	3385 (133 3/8)	3384 (133 1/4)	3383 (133 1/4)	3382 (133 1/4)	3381 (133 1/8)	3380 (133 1/8)	3379 (133 1/8)	3377 (133)	3376 (133)	3375 (132 7/8)	3374 (132 7/8)	3396 (133 3/4)	3411 (134 3/8)	3426 (135)

When using the 120 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	3571 (140 5/8)	3591 (141 1/2)	3603 (141 7/8)	3613 (142 1/4)	3623 (142 3/4)	3631 (143)	3638 (143 1/4)	3644 (143 1/2)	3649 (143 3/4)	3653 (143 7/8)	3656 (144)	3657 (144)	3658 (144 1/8)	3682 (145)	3698 (145 5/8)	3712 (146 1/4)
B Ylens	860 (33 7/8)	763 (30 1/8)	700 (27 5/8)	637 (25 1/8)	574 (22 5/8)	510 (20 1/8)	447 (17 5/8)	383 (15 1/8)	319 (12 5/8)	255 (10 1/8)	192 (7 5/8)	128 (5 1/8)	64 (2 5/8)	0 (0)	-65 (-2 5/8)	-130 (-5 1/8)
D TD	3673 (144 5/8)	3671 (144 5/8)	3670 (144 1/2)	3669 (144 1/2)	3668 (144 1/2)	3667 (144 3/8)	3665 (144 3/8)	3664 (144 3/8)	3663 (144 1/4)	3662 (144 1/4)	3661 (144 1/4)	3660 (144 1/8)	3658 (144 1/8)	3682 (145)	3699 (145 3/4)	3715 (146 3/8)

List of the Projection Distance by Angle of Optical Axis

When using the 130 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
🄴 Xlens	3856 (151 7/8)	3877 (152 3/4)	3890 (153 1/4)	3901 (153 5/8)	3911 (154)	3920 (154 3/8)	3928 (154 3/4)	3934 (155)	3940 (155 1/8)	3944 (155 3/8)	3947 (155 1/2)	3949 (155 1/2)	3949 (155 1/2)	3976 (156 5/8)	3993 (157 1/4)	4008 (157 7/8)
🄱 Ylens	929 (36 5/8)	824 (32 1/2)	756 (29 7/8)	688 (27 1/8)	619 (24 3/8)	551 (21 3/4)	482 (19)	414 (16 3/8)	345 (13 5/8)	276 (10 7/8)	207 (8 1/4)	138 (5 1/2)	69 (2 3/4)	0 (0)	-70 (-2 7/8)	-140 (-5 5/8)
🄳 TD	3966 (156 1/4)	3964 (156 1/8)	3962 (156)	3961 (156)	3960 (156)	3959 (155 7/8)	3957 (155 7/8)	3956 (155 3/4)	3955 (155 3/4)	3954 (155 3/4)	3952 (155 5/8)	3951 (155 5/8)	3950 (155 5/8)	3976 (156 5/8)	3993 (157 1/4)	4011 (158)

When using the 140 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
🄴 Xlens	4140 (163)	4163 (164)	4177 (164 1/2)	4189 (165)	4200 (165 3/8)	4209 (165 3/4)	4218 (166 1/8)	4225 (166 3/8)	4230 (166 5/8)	4235 (166 3/4)	4238 (166 7/8)	4240 (167)	4240 (167)	4269 (168 1/8)	4287 (168 7/8)	4304 (169 1/2)
🄱 Ylens	997 (39 3/8)	885 (34 7/8)	812 (32)	739 (29 1/8)	665 (26 1/4)	592 (23 3/8)	518 (20 1/2)	444 (17 1/2)	370 (14 5/8)	296 (11 3/4)	222 (8 3/4)	148 (5 7/8)	74 (3)	0 (0)	-75 (-3)	-150 (-6)
🄳 TD	4258 (167 3/4)	4256 (167 5/8)	4255 (167 5/8)	4253 (167 1/2)	4252 (167 1/2)	4251 (167 3/8)	4249 (167 3/8)	4248 (167 1/4)	4247 (167 1/4)	4245 (167 1/4)	4244 (167 1/8)	4242 (167 1/8)	4241 (167)	4269 (168 1/8)	4288 (168 7/8)	4306 (169 5/8)

When using the 150 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
🄴 Xlens	4424 (174 1/4)	4449 (175 1/4)	4464 (175 3/4)	4477 (176 3/8)	4488 (176 3/4)	4498 (177 1/8)	4507 (177 1/2)	4515 (177 7/8)	4521 (178)	4526 (178 1/4)	4529 (178 3/8)	4531 (178 1/2)	4532 (178 1/2)	4562 (179 5/8)	4582 (180 1/2)	4599 (181 1/8)
🄱 Ylens	1066 (42)	946 (37 1/4)	868 (34 1/4)	789 (31 1/8)	711 (28)	632 (25)	553 (21 7/8)	475 (18 3/4)	396 (15 5/8)	316 (12 1/2)	237 (9 3/8)	158 (6 1/4)	79 (3 1/8)	0 (0)	-80 (-3 1/4)	-161 (-6 3/8)
🄳 TD	4551 (179 1/4)	4549 (179 1/8)	4547 (179 1/8)	4546 (179)	4544 (179)	4543 (178 7/8)	4541 (178 7/8)	4540 (178 3/4)	4538 (178 3/4)	4537 (178 5/8)	4535 (178 5/8)	4534 (178 5/8)	4532 (178 1/2)	4562 (179 5/8)	4582 (180 1/2)	4602 (181 1/4)

When using the 160 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
🄴 Xlens	4707 (185 3/8)	4734 (186 1/2)	4749 (187)	4763 (187 5/8)	4775 (188)	4786 (188 1/2)	4796 (188 7/8)	4804 (189 1/4)	4810 (189 3/8)	4815 (189 5/8)	4819 (189 3/4)	4821 (189 7/8)	4822 (189 7/8)	4854 (191 1/8)	4875 (192)	4894 (192 3/4)
🄱 Ylens	1135 (44 3/4)	1006 (39 5/8)	923 (36 3/8)	840 (33 1/8)	756 (29 7/8)	673 (26 1/2)	589 (23 1/4)	505 (20)	421 (16 5/8)	337 (13 3/8)	253 (10)	168 (6 5/8)	84 (3 3/8)	0 (0)	-85 (-3 3/8)	-171 (-6 3/4)
🄳 TD	4842 (190 3/4)	4840 (190 5/8)	4838 (190 1/2)	4837 (190 1/2)	4835 (190 3/8)	4833 (190 3/8)	4832 (190 1/4)	4830 (190 1/4)	4829 (190 1/8)	4827 (190 1/8)	4826 (190)	4824 (190)	4822 (189 7/8)	4854 (191 1/8)	4875 (192)	4897 (192 7/8)

When using the 170 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
🄴 Xlens	4991 (196 1/2)	5019 (197 5/8)	5035 (198 1/4)	5050 (198 7/8)	5063 (199 3/8)	5074 (199 7/8)	5084 (200 1/4)	5093 (200 5/8)	5100 (200 7/8)	5105 (201)	5109 (201 1/4)	5111 (201 1/4)	5112 (201 3/8)	5146 (202 5/8)	5168 (203 1/2)	5188 (204 3/8)
🄱 Ylens	1203 (47 3/8)	1067 (42 1/8)	979 (38 5/8)	890 (35 1/8)	802 (31 5/8)	713 (28 1/8)	624 (24 5/8)	535 (21 1/8)	446 (17 5/8)	357 (14 1/8)	268 (10 5/8)	178 (7 1/8)	89 (3 5/8)	0 (0)	-90 (-3 5/8)	-181 (-7 1/4)
🄳 TD	5134 (202 1/4)	5131 (202 1/8)	5129 (202)	5127 (201 7/8)	5126 (201 7/8)	5124 (201 3/4)	5122 (201 3/4)	5121 (201 5/8)	5119 (201 5/8)	5117 (201 1/2)	5116 (201 1/2)	5114 (201 3/8)	5113 (201 3/8)	5146 (202 5/8)	5169 (203 5/8)	5191 (204 3/8)

When using the 180 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
🄴 Xlens	5274 (207 3/4)	5303 (208 7/8)	5321 (209 1/2)	5336 (210 1/8)	5350 (210 3/4)	5362 (211 1/8)	5373 (211 5/8)	5382 (212)	5389 (212 1/4)	5395 (212 1/2)	5399 (212 5/8)	5401 (212 3/4)	5402 (212 3/4)	5438 (214 1/8)	5461 (215)	5482 (215 7/8)
🄱 Ylens	1272 (50 1/8)	1127 (44 3/8)	1034 (40 3/4)	941 (37 1/8)	847 (33 3/8)	754 (29 3/4)	660 (26)	566 (22 3/8)	471 (18 5/8)	377 (14 7/8)	283 (11 1/4)	189 (7 1/2)	94 (3 3/4)	0 (0)	-95 (-3 3/4)	-191 (-7 5/8)
🄳 TD	5425 (213 5/8)	5422 (213 1/2)	5420 (213 1/2)	5418 (213 3/8)	5417 (213 3/8)	5415 (213 1/4)	5413 (213 1/8)	5411 (213 1/8)	5409 (213)	5408 (213)	5406 (212 7/8)	5404 (212 7/8)	5403 (212 3/4)	5438 (214 1/8)	5462 (215 1/8)	5486 (216)

When using the 190 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
🄴 Xlens	5559 (218 7/8)	5590 (220 1/8)	5608 (220 7/8)	5625 (221 1/2)	5639 (222 1/8)	5652 (222 5/8)	5663 (223)	5673 (223 3/8)	5680 (223 5/8)	5686 (223 7/8)	5691 (224 1/8)	5693 (224 1/4)	5694 (224 1/4)	5732 (225 3/4)	5756 (226 5/8)	5779 (227 5/8)
🄱 Ylens	1340 (52 7/8)	1188 (46 7/8)	1090 (43)	992 (39 1/8)	893 (35 1/4)	794 (31 3/8)	695 (27 3/8)	596 (23 1/2)	497 (19 5/8)	398 (15 3/4)	298 (11 3/4)	199 (7 7/8)	99 (4)	0 (0)	-100 (-4)	-202 (-8)
🄳 TD	5718 (225 1/8)	5715 (225)	5713 (225)	5711 (224 7/8)	5710 (224 7/8)	5708 (224 3/4)	5706 (224 3/4)	5704 (224 5/8)	5702 (224 1/2)	5700 (224 1/2)	5698 (224 3/8)	5697 (224 3/8)	5695 (224 1/4)	5732 (225 3/4)	5757 (226 3/4)	5782 (227 3/4)

When using the 200 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
🄴 Xlens	5844 (230 1/8)	5877 (231 1/2)	5896 (232 1/4)	5913 (232 7/8)	5929 (233 1/2)	5942 (234)	5954 (234 1/2)	5964 (234 7/8)	5972 (235 1/8)	5978 (235 3/8)	5983 (235 5/8)	5985 (235 3/4)	5986 (235 3/4)	6026 (237 1/4)	6052 (238 3/8)	6075 (239 1/4)
🄱 Ylens	1408 (55 1/2)	1249 (49 1/4)	1146 (45 1/8)	1043 (41 1/8)	939 (37)	835 (32 7/8)	731 (28 7/8)	627 (24 3/4)	522 (20 5/8)	418 (16 1/2)	314 (12 3/8)	209 (8 1/4)	104 (4 1/8)	0 (0)	-106 (-4 1/4)	-212 (-8 3/8)
🄳 TD	6012 (236 3/4)	6008 (236 5/8)	6006 (236 1/2)	6004 (236 1/2)	6002 (236 3/8)	6000 (236 1/4)	5999 (236 1/4)	5997 (236 1/8)	5995 (236 1/8)	5993 (236)	5991 (235 7/8)	5989 (235 7/8)	5987 (235 3/4)	6026 (237 1/4)	6053 (238 3/8)	6079 (239 3/8)

When using the 210 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
🄴 Xlens	6127 (241 1/4)	6161 (242 5/8)	6181 (243 3/8)	6199 (244 1/8)	6215 (244 3/4)	6230 (245 3/8)	6242 (245 3/4)	6252 (246 1/4)	6261 (246 1/2)	6267 (246 3/4)	6272 (247)	6275 (247 1/8)	6276 (247 1/8)	6318 (248 3/4)	6344 (249 7/8)	6369 (250 3/4)
🄱 Ylens	1477 (58 1/4)	1310 (51 5/8)	1202 (47 3/8)	1093 (43 1/8)	984 (38 3/4)	876 (34 1/2)	766 (30 1/4)	657 (25 7/8)	548 (21 5/8)	438 (17 1/4)	329 (13)	219 (8 5/8)	110 (4 3/8)	0 (0)	-111 (-4 3/8)	-222 (-8 3/4)
🄳 TD	6302 (248 1/8)	6299 (248)	6297 (248)	6295 (247 7/8)	6293 (247 7/8)	6291 (247 3/4)	6289 (247 5/8)	6287 (247 5/8)	6285 (247 1/2)	6283 (247 3/8)	6281 (247 3/8)	6279 (247 1/4)	6277 (247 1/4)	6318 (248 3/4)	6345 (249 7/8)	6373 (251)

When using the 220 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
🄴 Xlens	6410 (252 3/8)	6446 (253 7/8)	6467 (254 5/8)	6485 (255 3/8)	6502 (256)	6517 (256 5/8)	6530 (257 1/8)	6541 (257 5/8)	6550 (257 7/8)	6556 (258 1/8)	6561 (258 3/8)	6564 (258 1/2)	6565 (258 1/2)	6609 (260 1/4)	6637 (261 3/8)	6663 (262 3/8)
🄱 Ylens	1546 (60 7/8)	1370 (54)	1257 (49 1/2)	1144 (45 1/8)	1030 (40 5/8)	916 (36 1/8)	802 (31 5/8)	687 (27 1/8)	573 (22 5/8)	458 (18 1/8)	344 (13 5/8)	229 (9 1/8)	115 (4 5/8)	0 (0)	-116 (-4 5/8)	-233 (-9 1/4)
🄳 TD	6593 (259 5/8)	6590 (259 1/2)	6588 (259 3/8)	6585 (259 3/8)	6583 (259 1/4)	6581 (259 1/8)	6579 (259 1/8)	6577 (259)	6575 (258 7/8)	6572 (258 3/4)	6570 (258 3/4)	6568 (258 5/8)	6566 (258 5/8)	6609 (260 1/4)	6638 (261 3/8)	6667 (262 1/2)

List of the Projection Distance by Angle of Optical Axis

When using the 230 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	6692 (263 1/2)	6730 (265)	6752 (265 7/8)	6771 (266 5/8)	6789 (267 3/8)	6804 (267 7/8)	6818 (268 1/2)	6829 (268 7/8)	6838 (269 1/4)	6846 (269 5/8)	6851 (269 3/4)	6854 (269 7/8)	6855 (270)	6901 (271 3/4)	6930 (272 7/8)	6957 (274)
B Ylens	1614 (63 5/8)	1431 (56 3/8)	1312 (51 3/4)	1194 (47 1/8)	1075 (42 3/8)	956 (37 3/4)	837 (33)	718 (28 3/8)	598 (23 5/8)	479 (18 7/8)	359 (14 1/4)	239 (9 1/2)	120 (4 3/4)	0 (0)	-121 (-4 7/8)	-243 (-9 5/8)
D TD	6884 (271 1/8)	6880 (270 7/8)	6878 (270 7/8)	6876 (270 3/4)	6874 (270 3/4)	6871 (270 5/8)	6869 (270 1/2)	6867 (270 3/8)	6865 (270 3/8)	6862 (270 1/4)	6860 (270 1/8)	6858 (270)	6856 (270)	6901 (271 3/4)	6931 (272 7/8)	6961 (274 1/8)

When using the 240 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	6975 (274 5/8)	7014 (276 1/4)	7037 (277 1/8)	7057 (277 7/8)	7076 (278 5/8)	7092 (279 1/4)	7106 (279 7/8)	7118 (280 1/4)	7127 (280 5/8)	7135 (281)	7140 (281 1/8)	7143 (281 1/4)	7144 (281 3/8)	7192 (283 1/4)	7223 (284 3/8)	7251 (285 1/2)
B Ylens	1683 (66 3/8)	1491 (58 3/4)	1368 (53 7/8)	1244 (49)	1121 (44 1/4)	997 (39 3/8)	872 (34 3/8)	748 (29 1/2)	624 (24 5/8)	499 (19 3/4)	374 (14 3/4)	249 (9 7/8)	125 (5)	0 (0)	-126 (-5)	-253 (-10)
D TD	7175 (282 1/2)	7171 (282 3/8)	7169 (282 1/4)	7166 (282 1/4)	7164 (282 1/8)	7162 (282)	7159 (281 7/8)	7157 (281 7/8)	7155 (281 3/4)	7152 (281 5/8)	7150 (281 1/2)	7148 (281 1/2)	7145 (281 3/8)	7192 (283 1/4)	7224 (284 1/2)	7255 (285 3/4)

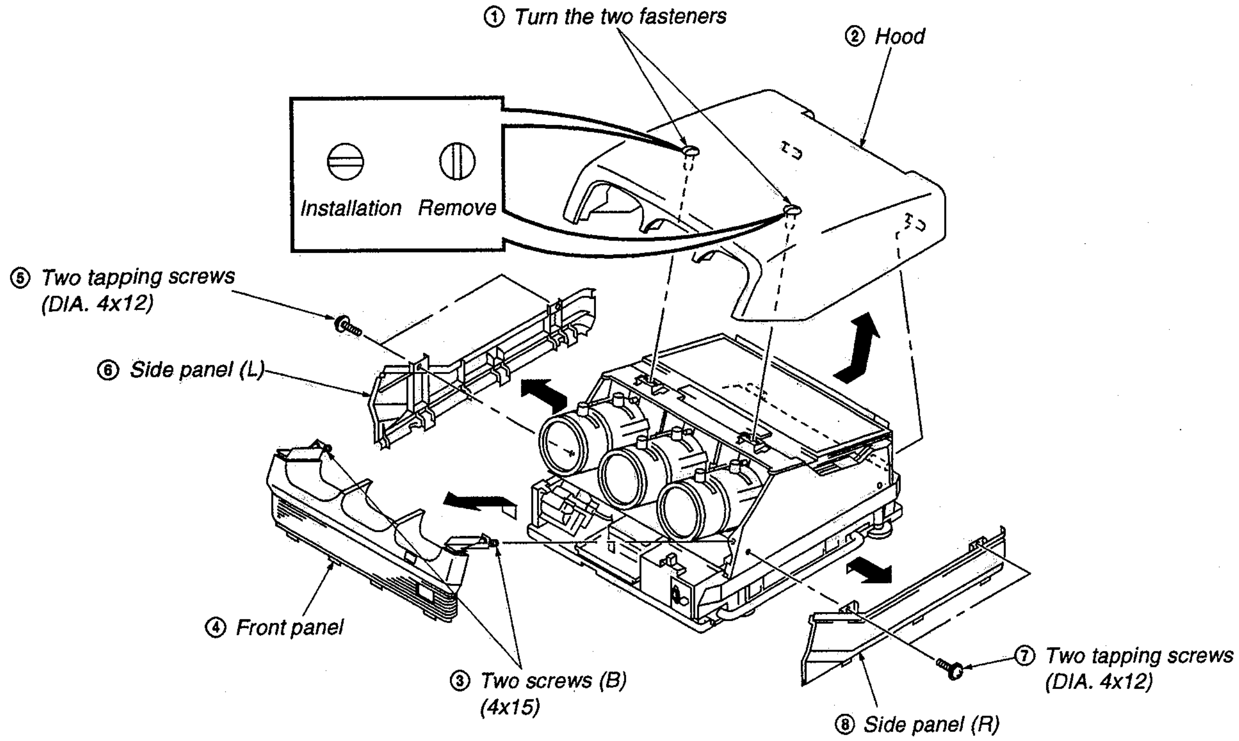
When using the 250 inch screen

Unit: mm (inches)

a TA (deg)	13.5°	12°	11°	10°	9°	8°	7°	6°	5°	4°	3°	2°	1°	0°	-1°	-2°
E Xlens	7257 (285 3/4)	7299 (287 3/8)	7322 (288 3/8)	7343 (289 1/8)	7363 (290)	7379 (290 5/8)	7394 (291 1/8)	7406 (291 5/8)	7416 (292)	7424 (292 3/8)	7429 (292 1/2)	7433 (292 3/4)	7434 (292 3/4)	7484 (294 3/4)	7515 (295 7/8)	7544 (297 1/8)
B Ylens	1751 (69)	1551 (61 1/8)	1423 (56 1/8)	1295 (51)	1166 (46)	1037 (40 7/8)	908 (35 3/4)	778 (30 3/4)	649 (25 5/8)	519 (20 1/2)	389 (15 3/8)	260 (10 1/4)	130 (5 1/8)	0 (0)	-131 (-5 1/4)	-263 (-10 3/8)
D TD	7466 (294)	7462 (293 7/8)	7459 (293 3/4)	7457 (293 5/8)	7454 (293 1/2)	7452 (293 1/2)	7449 (293 3/8)	7447 (293 1/4)	7444 (293 1/8)	7442 (293)	7440 (293)	7437 (292 7/8)	7435 (292 3/4)	7484 (294 3/4)	7516 (296)	7549 (297 1/4)

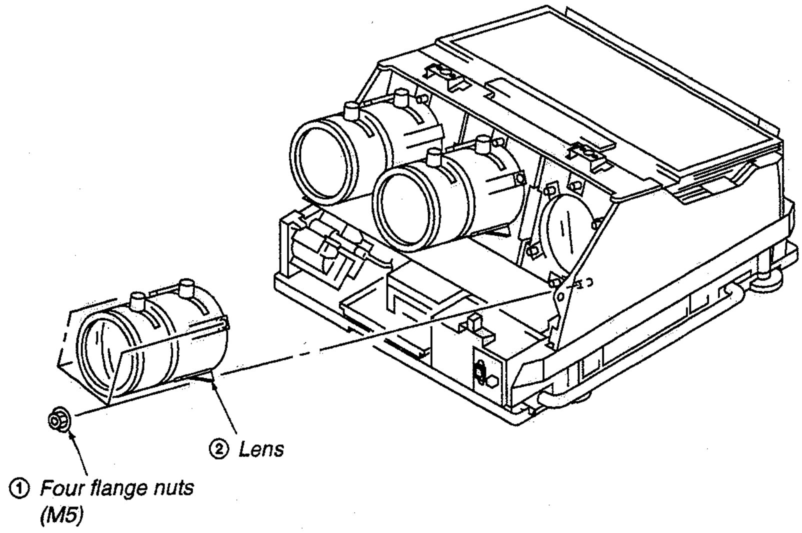
SECTION 2
DISASSEMBLY

2-1. COVER REMOVAL

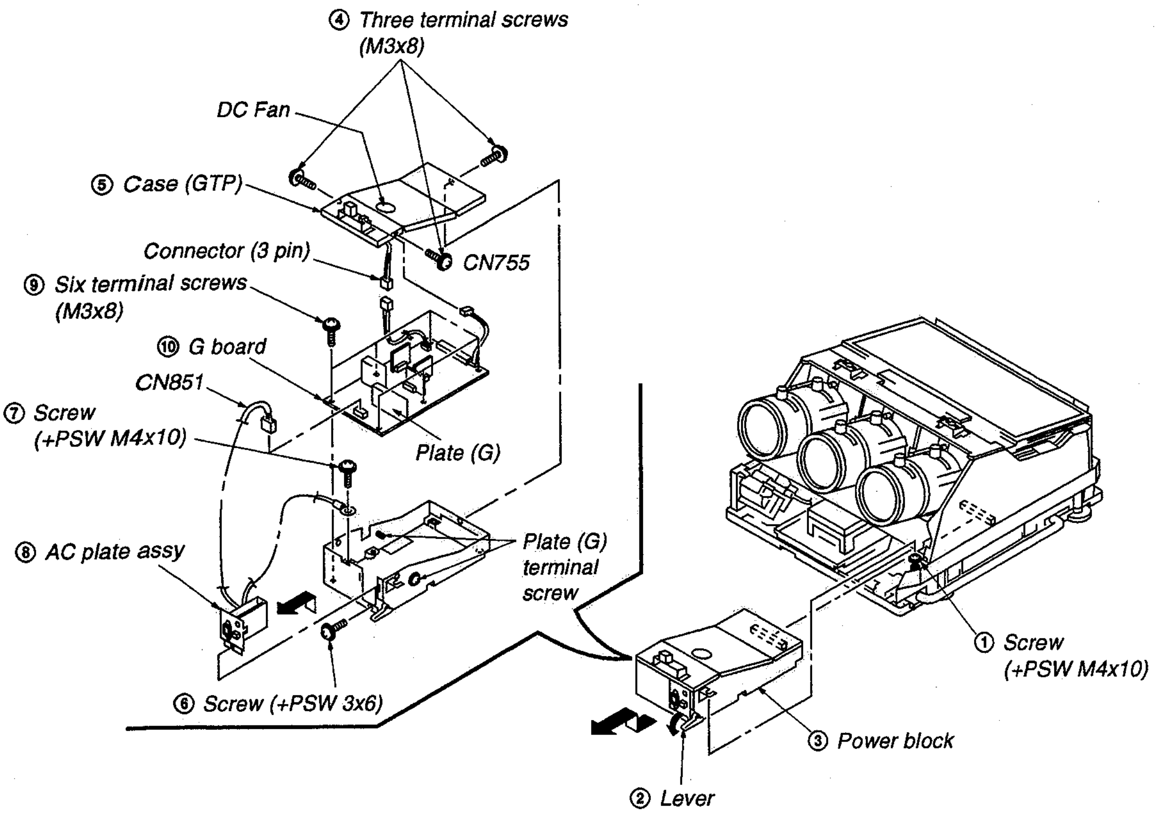

① Turn the two fasteners
② Hood
Installation
Remove
⑤ Two tapping screws (DIA. 4x12)
⑥ Side panel (L)
④ Front panel
③ Two screws (B) (4x15)
⑦ Two tapping screws (DIA. 4x12)
⑧ Side panel (R)

Note : Turn the base upside down to remove, then remove four feet and seven tapping screws (black). (With the hood installed)

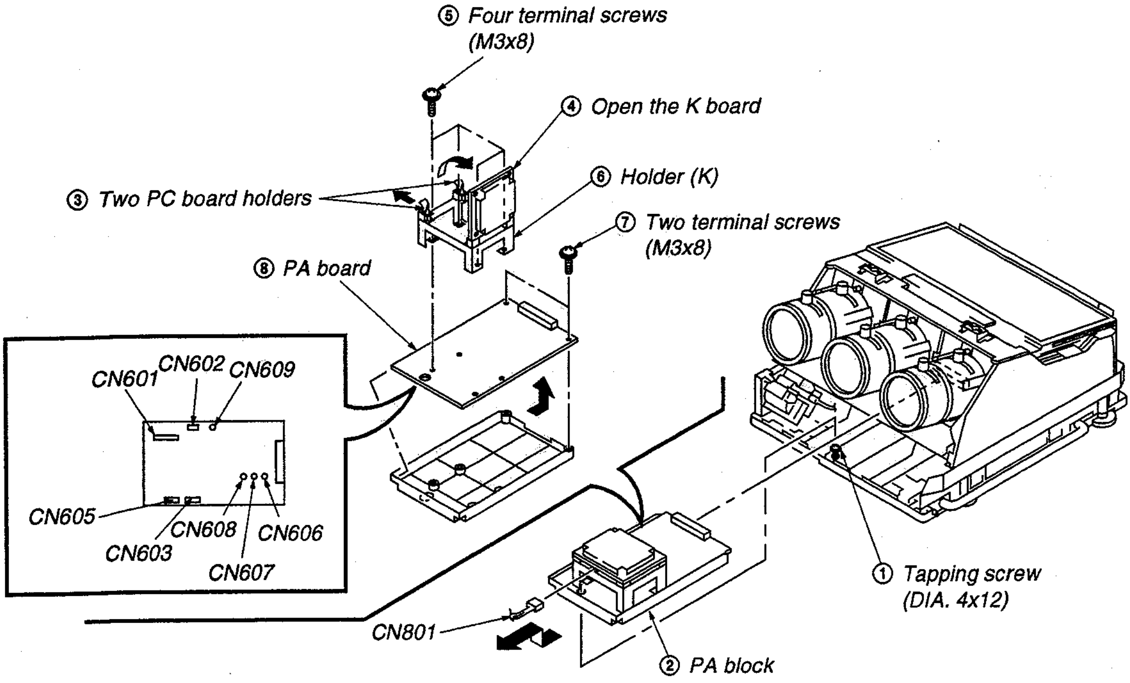
2-2. LENS REMOVAL


② Lens
① Four flange nuts (M5)

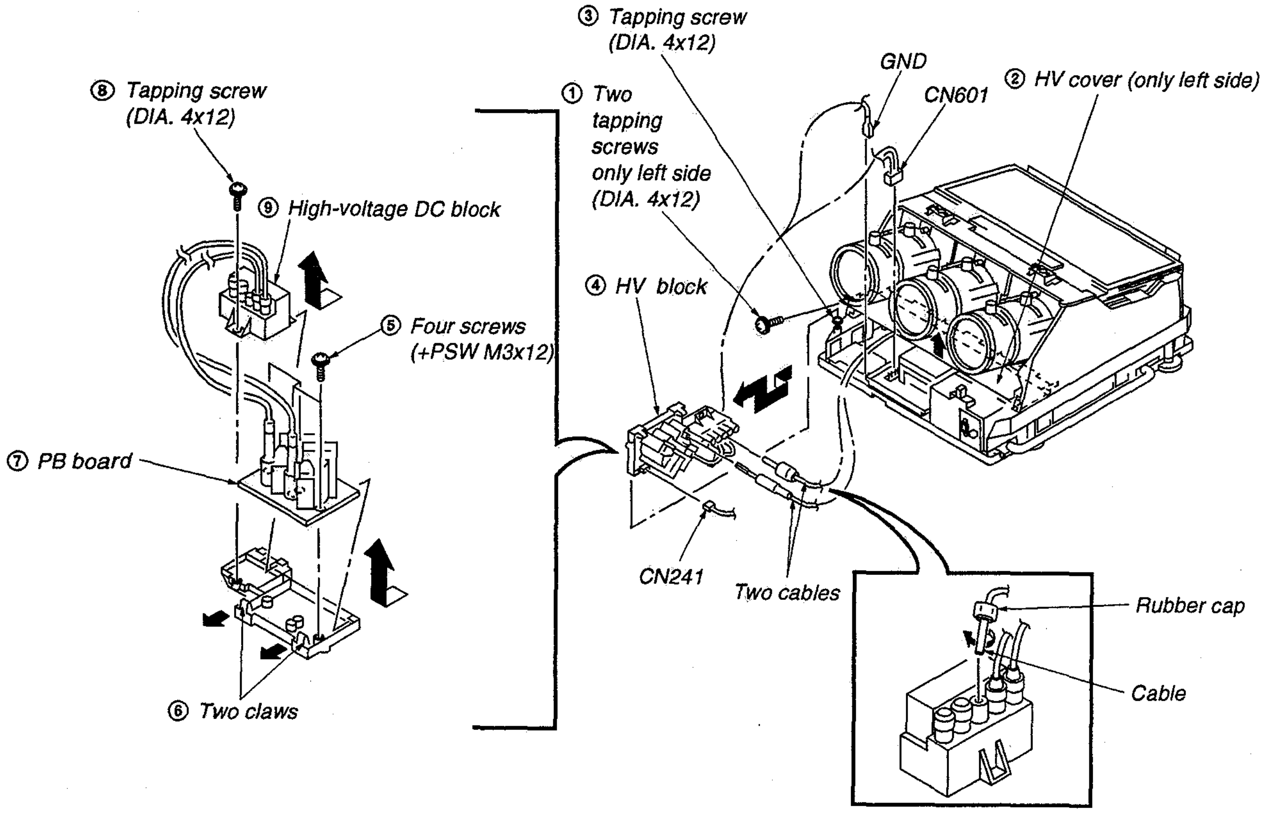
2-3. G BOARD REMOVAL


④ Three terminal screws
(M3x8)
DC Fan
⑤ Case (GTP)
Connector (3 pin)
CN755
⑨ Six terminal screws
(M3x8)
⑩ G board
CN851
⑦ Screw
(+PSW M4x10)
Plate (G)
⑧ AC plate assy
Plate (G)
terminal
screw
⑥ Screw (+PSW 3x6)
① Screw
(+PSW M4x10)
③ Power block
② Lever

2-4. PA BOARD REMOVAL

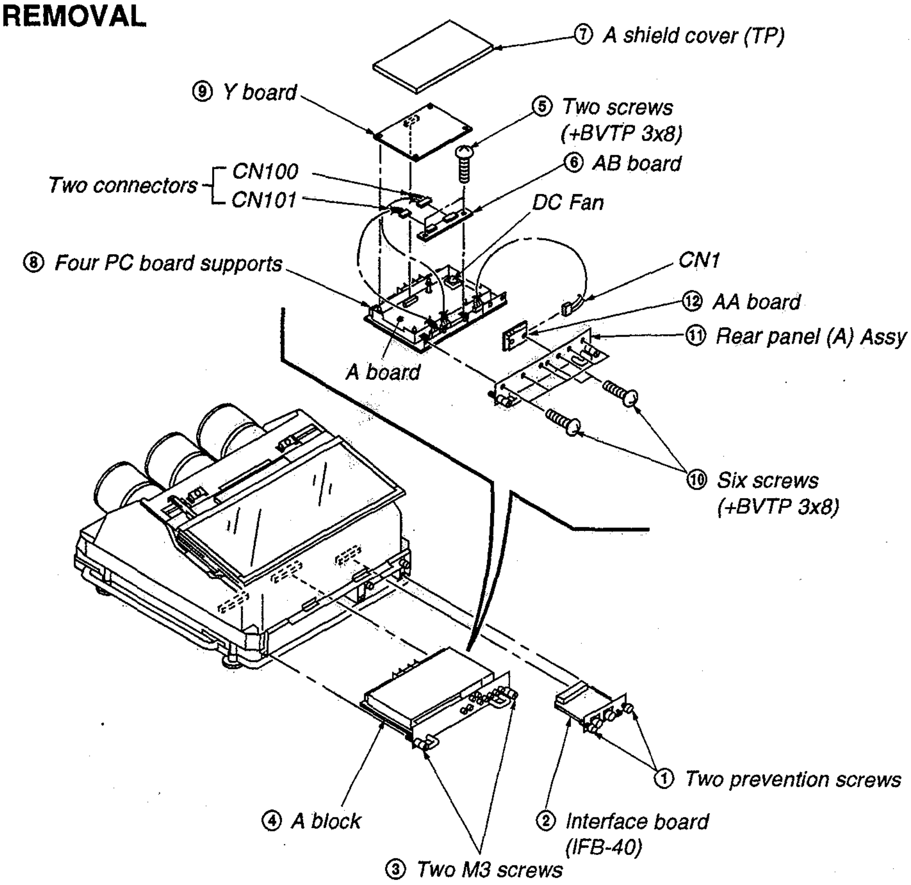

⑤ Four terminal screws
(M3x8)
④ Open the K board
③ Two PC board holders
⑥ Holder (K)
⑦ Two terminal screws
(M3x8)
⑧ PA board
CN601
CN602
CN609
CN605
CN608
CN606
CN603
CN607
CN801
① Tapping screw
(DIA. 4x12)
② PA block

2-5. PB BOARD REMOVAL

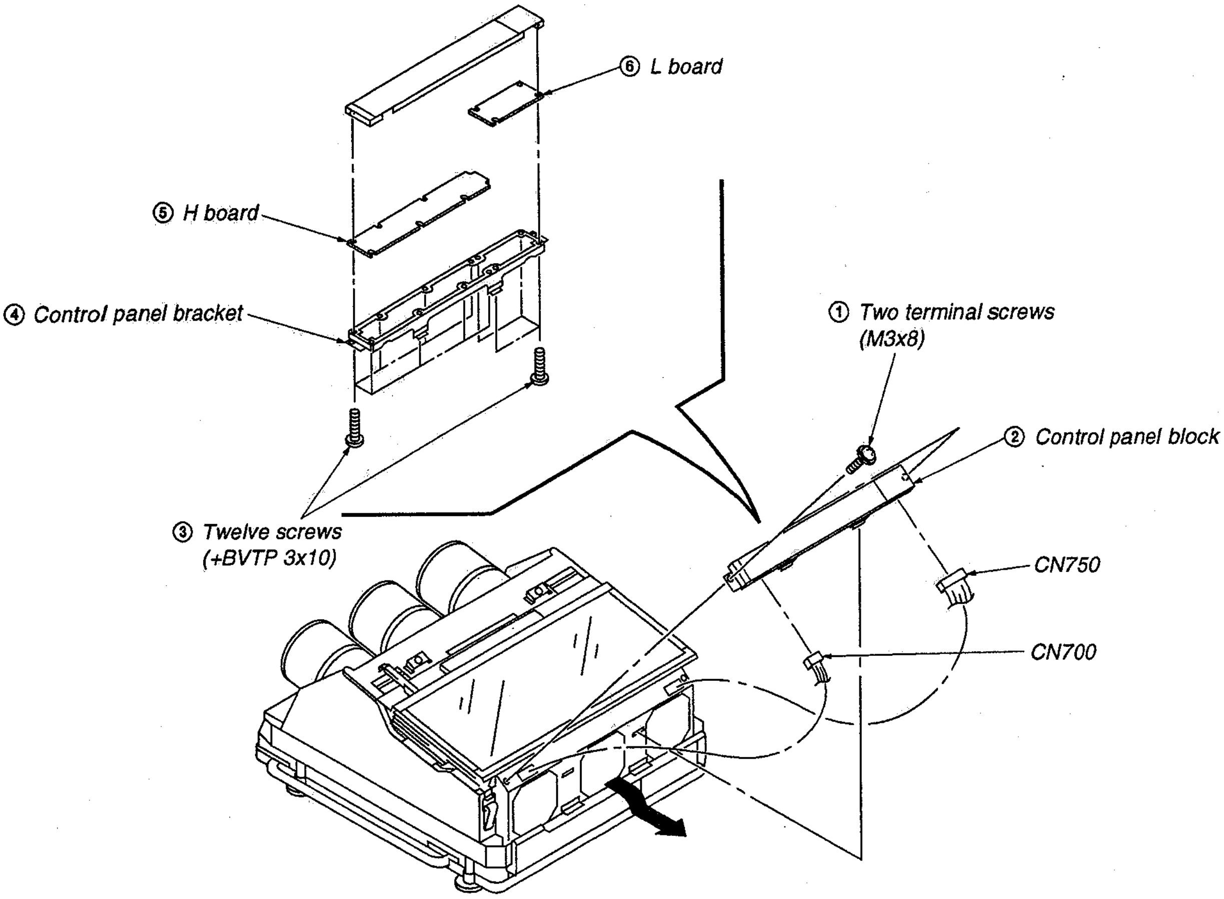

⑧ Tapping screw (DIA. 4x12)
⑨ High-voltage DC block
⑤ Four screws (+PSW M3x12)
⑦ PB board
⑥ Two claws
③ Tapping screw (DIA. 4x12)
① Two tapping screws only left side (DIA. 4x12)
GND
CN601
② HV cover (only left side)
④ HV block
CN241
Two cables
Rubber cap
Cable

HIGH-VOLTAGE CABLE REMOVAL
1) Shift rubber cap
2) Pressing cable, Turn 90°
3) Pull out a cable

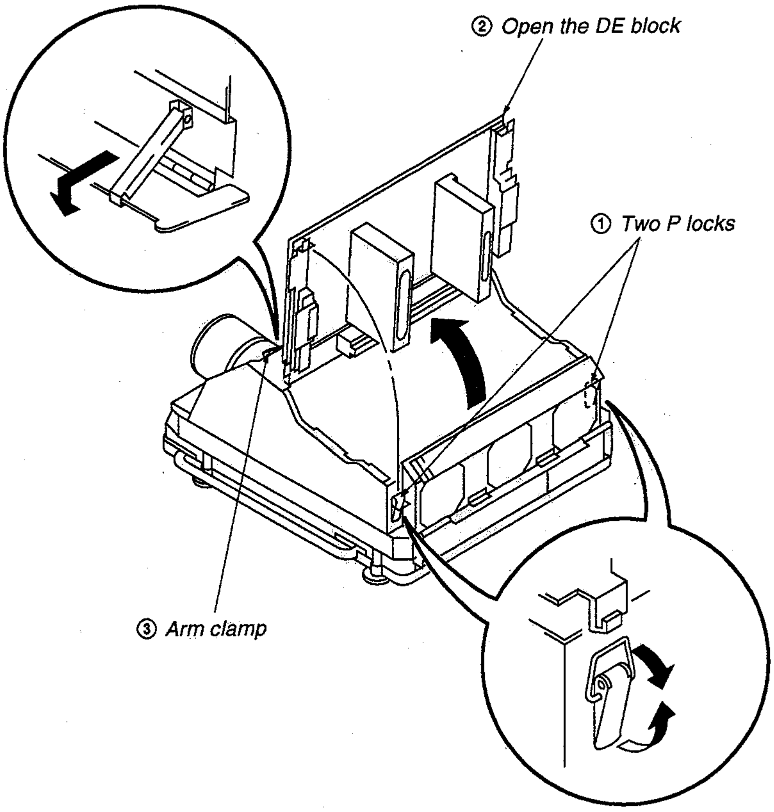
2-6. A BOARD REMOVAL


⑦ A shield cover (TP)
⑨ Y board
⑤ Two screws (+BVTP 3x8)
⑥ AB board
Two connectors
CN100
CN101
DC Fan
⑧ Four PC board supports
CN1
⑫ AA board
⑪ Rear panel (A) Assy
A board
⑩ Six screws (+BVTP 3x8)
① Two prevention screws
④ A block
② Interface board (IFB-40)
③ Two M3 screws

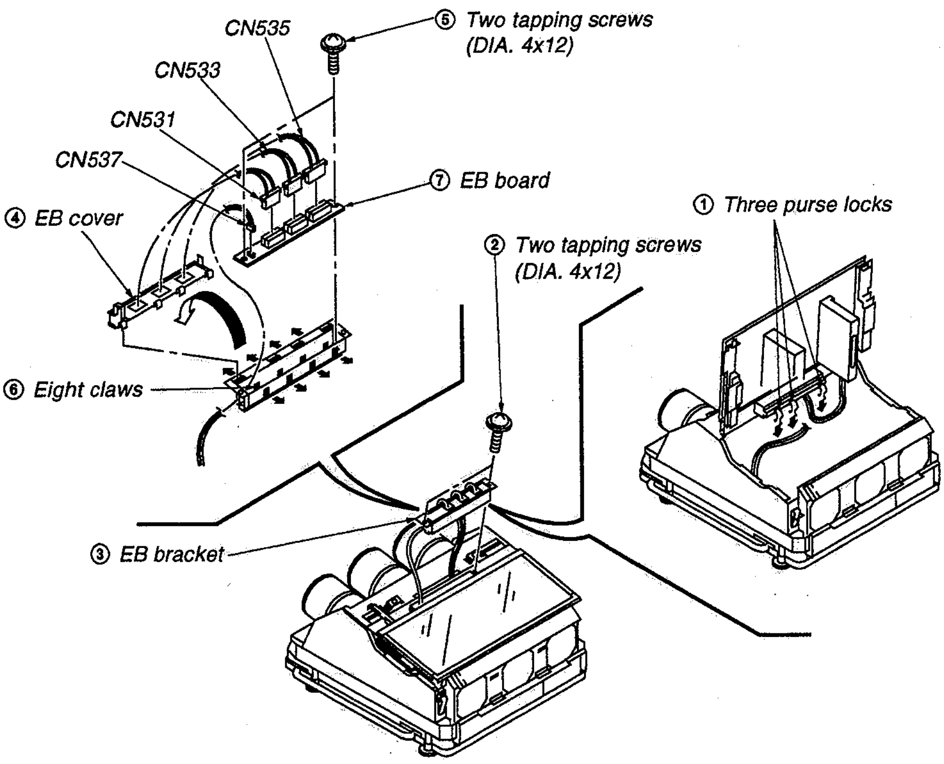
2-7. H AND L BOARDS REMOVAL


⑥ L board
⑤ H board
④ Control panel bracket
① Two terminal screws (M3x8)
② Control panel block
③ Twelve screws (+BVTP 3x10)
CN750
CN700

2-8. DE BLOCK OPEN

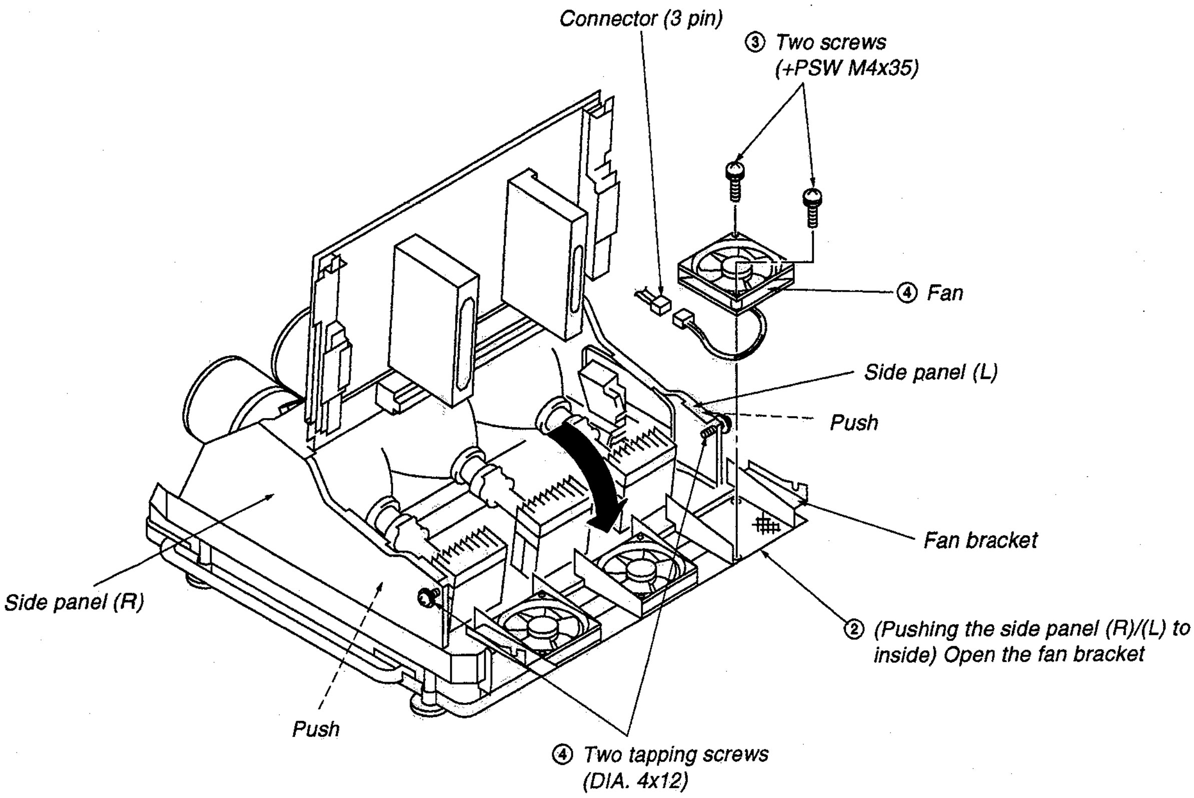

② Open the DE block
① Two P locks
③ Arm clamp

2-9. EB BOARD REMOVAL



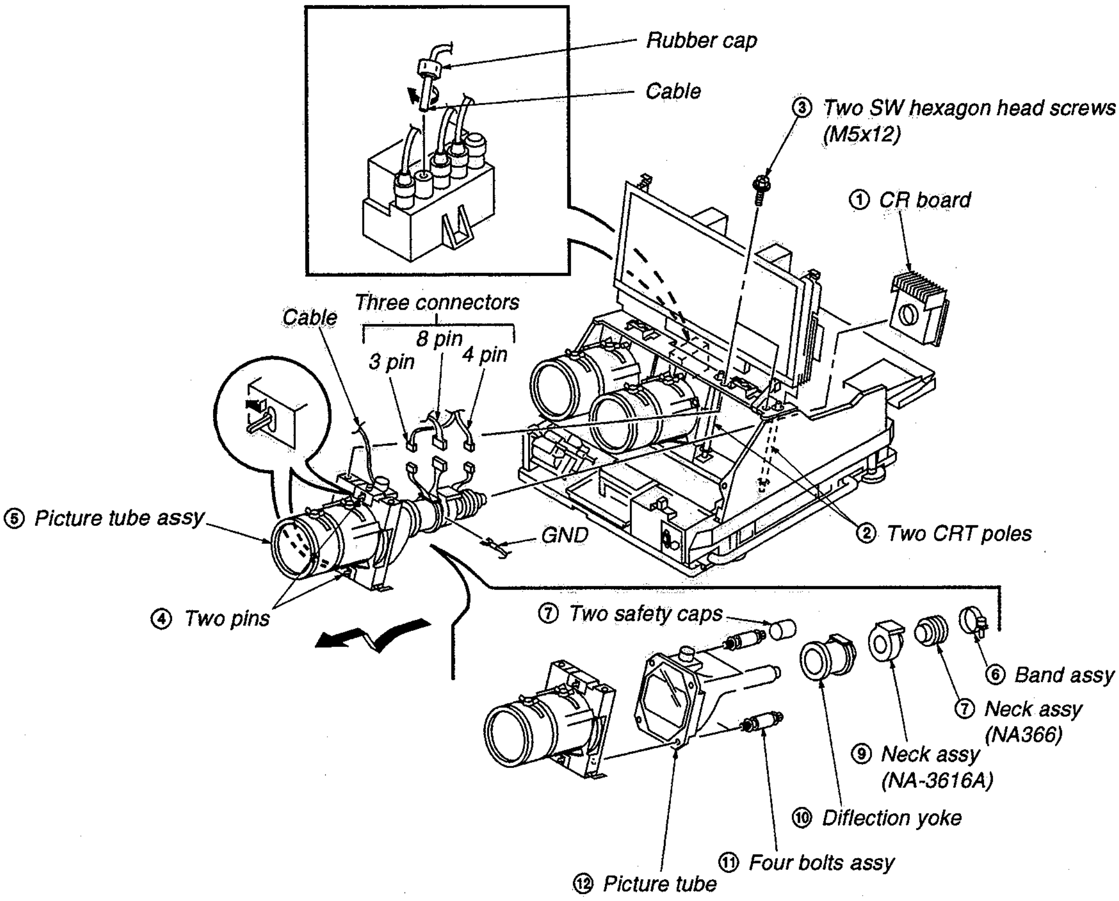
CN535
⑤ Two tapping screws (DIA. 4x12)
CN533
CN531
CN537
⑦ EB board
④ EB cover
① Three purse locks
② Two tapping screws (DIA. 4x12)
⑥ Eight claws
③ EB bracket

2-10. FAN REMOVAL



Connector (3 pin)
③ Two screws (+PSW M4x35)
④ Fan
Side panel (L)
Push
Fan bracket
Side panel (R)
② (Pushing the side panel (R)/(L) to inside) Open the fan bracket
Push
④ Two tapping screws (DIA. 4x12)

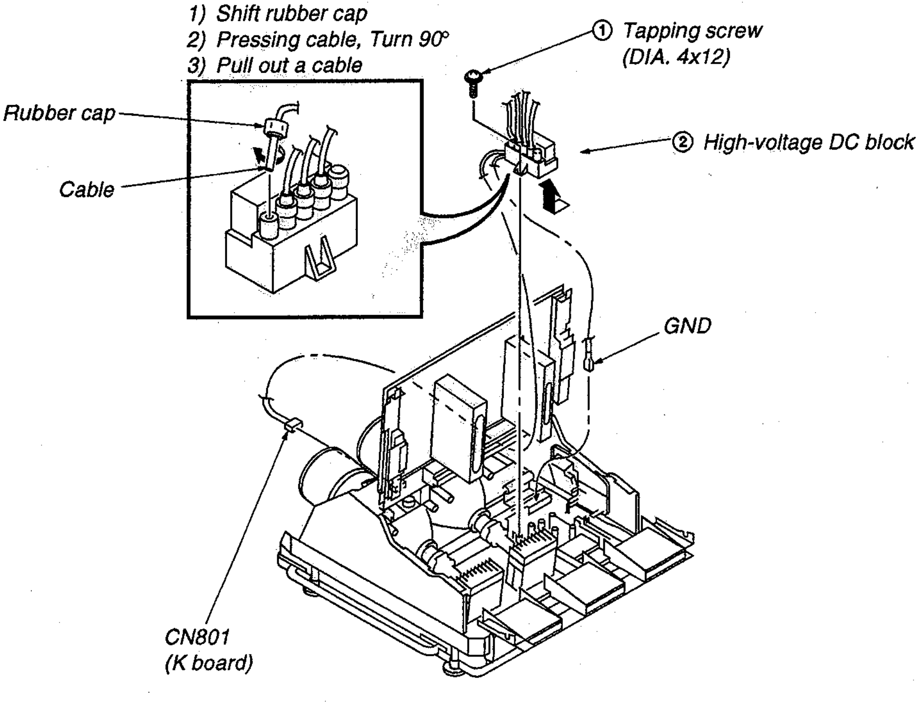
2-11. PICTURE TUBE REMOVAL



HIGH-VOLTAGE CABLE REMOVAL
1) Shift rubber cap
2) Pressing cable, Turn 90°
3) Pull out a cable

Rubber cap
Cable
③ Two SW hexagon head screws (M5x12)
① CR board
Cable
Three connectors
8 pin
3 pin
4 pin
⑤ Picture tube assy
GND
② Two CRT poles
④ Two pins
⑦ Two safety caps
⑥ Band assy
⑦ Neck assy (NA366)
⑨ Neck assy (NA-3616A)
⑩ Diflection yoke
⑪ Four bolts assy
⑫ Picture tube

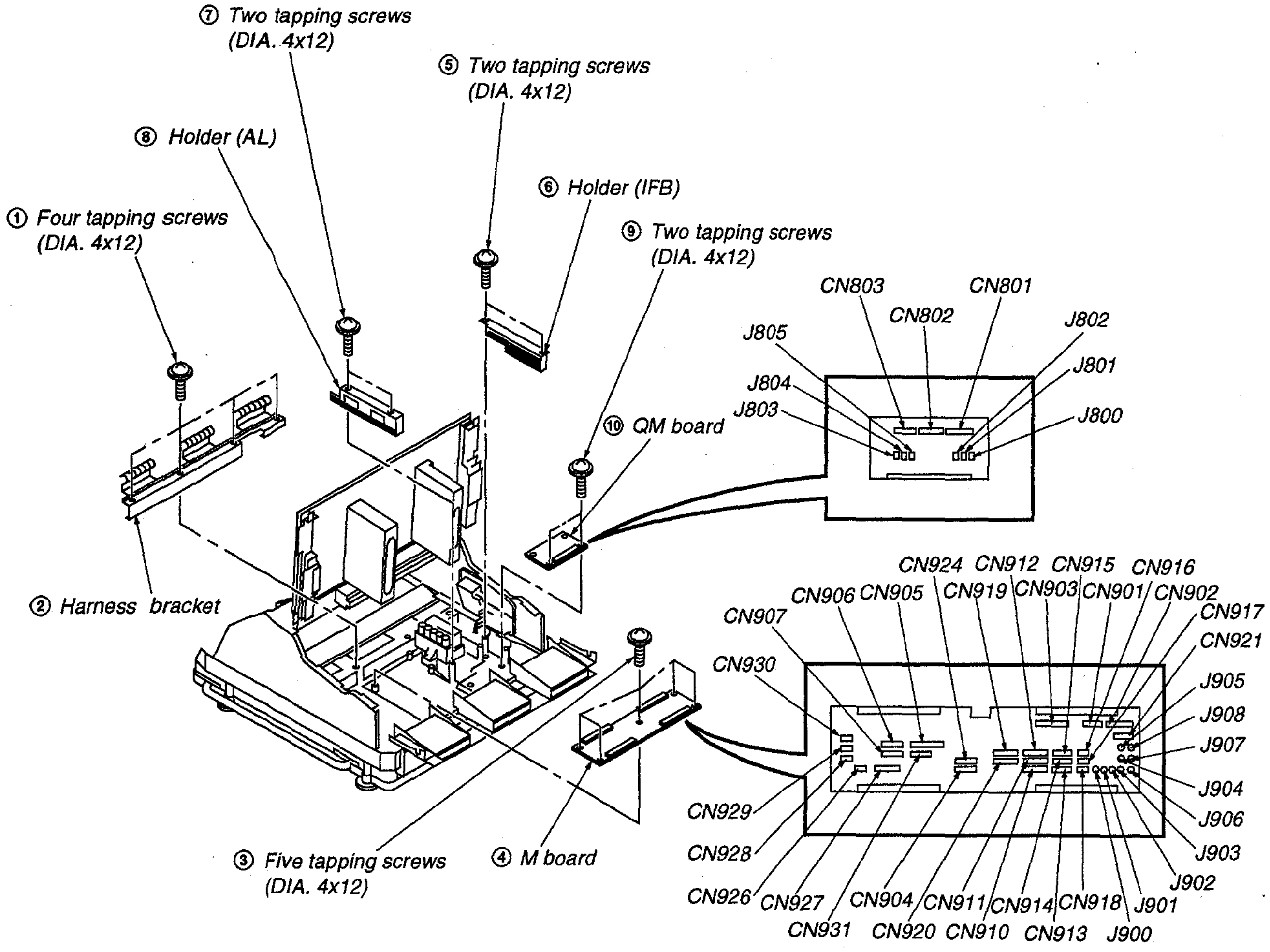
2-12. HIGH-VOLTAGE DC BLOCK



HIGH-VOLTAGE CABLE REMOVAL
1) Shift rubber cap
2) Pressing cable, Turn 90°
3) Pull out a cable

① Tapping screw (DIA. 4x12)
Rubber cap
Cable
② High-voltage DC block
GND
CN801 (K board)

2-13. M AND QM BOARDS REMOVAL


⑦ Two tapping screws (DIA. 4x12)
⑤ Two tapping screws (DIA. 4x12)
⑧ Holder (AL)
⑥ Holder (IFB)
① Four tapping screws (DIA. 4x12)
⑨ Two tapping screws (DIA. 4x12)
CN803
CN801
CN802
J805
J802
J801
J804
J803
⑩ QM board
J800
② Harness bracket
CN924
CN912
CN915
CN916
CN906
CN905
CN919
CN903
CN901
CN902
CN907
CN917
CN921
CN930
J905
J908
J907
J904
J906
J903
J902
CN929
CN928
CN926
CN927
CN904
CN911
CN914
CN918
J901
CN931
CN920
CN910
CN913
J900
③ Five tapping screws (DIA. 4x12)
④ M board

SECTION 3
ADJUSTMENTS

3-1. Basic Adjustments

Note 1: Precautions Upon Adjusting

- When the CRT has been replaced, fix DY, and decide the position of the neck assembly before beginning adjustments.
- The service mode can be exited by turning OFF the power.

1-1. Attaching the Neck Assembly

1. Fix DY to the CRT funnel, and then fix the sub DY.
2. Secure the 2-pole and 4-pole magnet assemblies 6 to 8 mm away from the sub DY.
3. Attach the CB, CG and CR board.

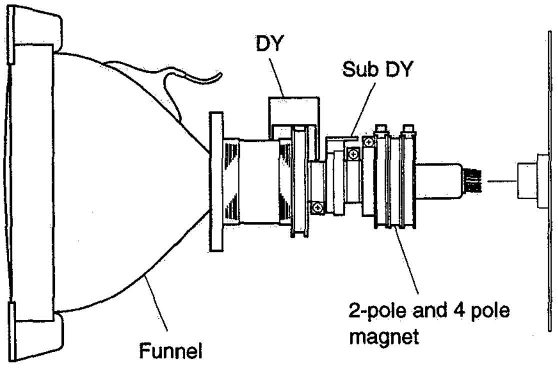

DY
Sub DY
2-pole and 4 pole magnet
Funnel

Fig. 1

1-2. Adjusting Conditions

1-2-1. Projector

(1) Place the unit on a table which satisfies the projection conditions in Fig. 2.
(See Fig. 2-1, Fig. 2-2, Fig. 2-3.)

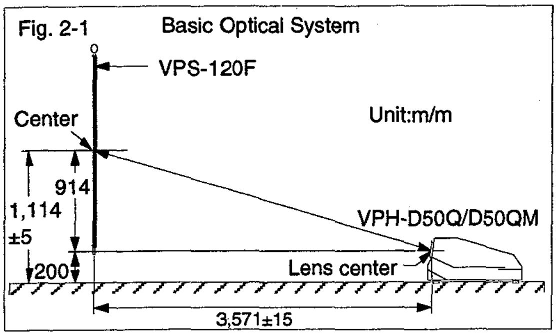


Fig. 2-1 Basic Optical System
VPS-120F
Unit:m/m
Center
914
1,114
±5
200
VPH-D50Q/D50QM
Lens center
3,571±15

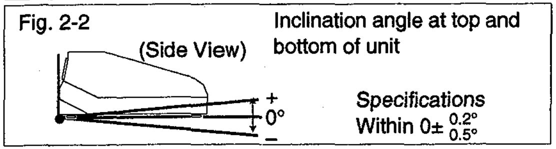


Fig. 2-2 Inclination angle at top and bottom of unit
(Side View)
+
0°
−
Specifications
Within 0± 0.2° 0.5°

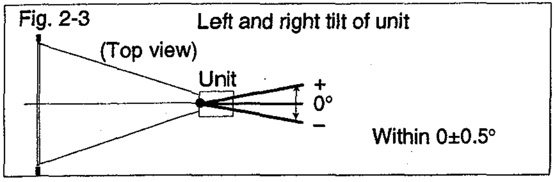


Fig. 2-3 Left and right tilt of unit
(Top view)
Unit
+
0°
−
Within 0±0.5°

Fig. 2

1-2-2. Video Back Voltage Adjustment

(1) Connect a digital voltmeter between the ⊕ and GND of C101 of the CF board.
(2) Turn ON the POWER, adjust RD100 of the CF board, and set it to +195±0.5V.

1-3. Focus Adjustment

- Open the serviceman adjustment cover of the remote commander.

1-3-1. Focus Rough Adjustment

(1) Set INPUT-A to the no-signal state, press the INPUT A key, and select P3 of the internal oscillation frequency of the service setting mode.
Set the service mode.

(2) Press the REGISTRATION CENTER ADJG key, and display the cross-hair.

(3) Press the CUT OFF key to set GREEN only.

(4) Adjust the focus of the screen center by GREEN lens main focusing.

(5) Adjust the focus of the screen center by GREEN electrical focusing.

(6) Adjust the top, bottom, left, and right focus of the screen by GREEN lens peripheral focusing.

(7) Adjust in the same way for RED and BLUE.

1-3-2. FACTORY RESET

(1) Continue pressing the RESET key to set the ALL RESET mode.

(2) Select YES, press the ENTER key, select ALL INPUT, and press the ENTER key.

(3) Select FACTORY DATA RESET, and press the ENTER key to set the FACTORY RESET state.

(4) Turn OFF the power, and turn OFF the MAIN POWER.

(5) Open the DE bracket, disconnect the 2P short-circuit connector inserted in CN933, and insert it into CN932.

(6) Turn ON the MAIN POWER, and turn on the power using the remote commander.

1-3-3. Convergence angle adjustment

(1) Press the INPUT A key. Set NO INPUT (31. 5kHz).

(2) Press the REGISTRATION CENT ADJ G key, and output the cross-hair.
If the horizontal line on the screen is slanting, rotate DY and adjust it roughly so that it becomes horizontal.

(3) Look inside the GREEN LENS, and if the cross-hair center vertical line is not at the center of the screen, adjust so using the ◀, ▶ arrow keys.

(4) Likewise, adjust the cross-hair center vertical line to the center of the screen for RED and BLUE as well.

(5) Press the CUTOFF R and B keys to set GREEN only.

(6) Check if the GREEN cross-hair vertical line is at the center of the screen.
If it is not, move the unit so that cross-hair vertical line comes to the center of the screen.
If the line is still not at the center of the screen, loosen the four screws of the CRT bracket securing the GREEN CRT, and move the GREEN CRT so that the line comes to the center of the screen.

(7) Press the ADJ R key, and adjust CENT only in the V direction using the ▲ and ▼ arrow keys.

(8) Press the ADJ B key, and adjust CENT only in the V direction using the ▲ and ▼ arrow keys.

(9) Press the CUT OFF B key to set only RED and GREEN.

(10) Loosen the four screws securing the CRT bracket of RED so that convergence angle adjustment can be performed .

(11) Adjust the convergence angle so that the RED vertical line coincides with the GREEN vertical line on the screen.

(12) Tighten the loosened screws temporarily while ensuring that the RED vertical line does not deviate from the GREEN vertical line by watching the screen.
(Tighten from the screws on the GREEN CRT side.)

(13) Adjust the BLUE convergence angle in the same way as RED.

(14) After adjusting BLUE, tighten the ten screws.

Tightening torque:1.5N • m (15KgF • Cm)

(15) Check that the RED CENT and BLUE CENT are coinciding with the GREEN CENT.
Specification:Within one cross-hatch

1-3-4. DY, SUB DY angle adjustment

(1) Set the SIZE ADJ G mode, and set the GREEN H SIZE to the 20 to 40 mm position inside of the screen using the ◀ and ▶ arrow keys. (Adjust H.LIN roughly if it is not correct.)
(2) Perform rough adjustments for RED and BLUE as well if H.SIZE and H.LIN are not correct.
(3) Check that the V.SKEW and V.BOW of R, G, and B is 128. (Set it to 128 if not.)
(4) Open the ED bracket.
(5) Check that the SUB DY terminals (connectors) of R, G, and B are mechanically at the top. (If they are not, adjust so that they come to the top.)

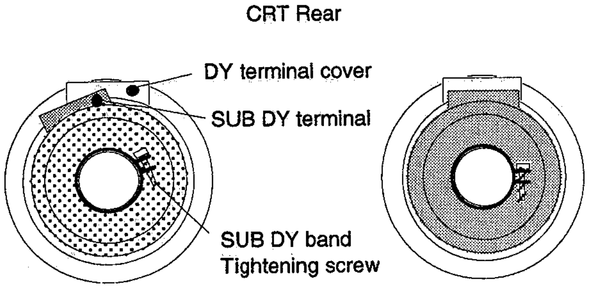


Fig. 3

(6) Press the CUT OFF R and B keys to set only GREEN.
(7) Adjust the GREEN DY angle, adjust the horizontal line of the cross-hair to the horizontal line on the screen, and fix DY.
DY band tightening torque:
80 to 120N • Cm (8.16 to 12.24 KgF • Cm)

* DY should be attached firmly to the CRT funnel.

(8) Fix SUB DY so that the SUB DY terminal (connector) is at the top.
SUB DY band tightening torque:
80 to 120N • Cm (8.16 to 12.24 KgF • Cm)

(9) Adjust the RED and BLUE DYs in the same way.
(10) Check that the RGB horizontal lines on the screen are correct.

1-3-5. Registration rough adjustment

(1) Press the SKEW ADJ G key to set only GREEN.
(2) Adjust so that the GREEN vertical line coincides with the vertical line on the screen using the ◀ and ▶ arrow keys..
(3) Press the BOW key, and adjust so that the GREEN vertical line coincides with the vertical line on the screen using the ◀ and ▶ arrow keys.
(4) Press the KEY key, and adjust so that the horizontal line at the top coincides with the vertical line at the bottom using the ◀ and ▶ arrow keys.
(5) Press the PIN key, and adjust so that the top, bottom, left, and right vertical and horizontal lines become straight using the ◀, ▶, ▲ and ▼ arrow keys.
(6) Check that the cross-hatch on the screen is more or less square.
(7) Press the CUT OFF R key, and press the ADJ R key.
(8) Adjust the CENT, SIZE, LIN, SKEW (H only), BOW, and (KEY) (V only) of RED in the same way according to GREEN.
(9) Adjust the CENT, SIZE, LIN, SKEW (H only), BOW, and (KEY) (V only) of BLUE in the same way according to GREEN or RED.
(10) After completing the registration rough adjustments for R, G, and B, press the MEMORY key.
(11) Press the RGB SHIFT key. Adjust so that the image comes to the center of the screen using the ◀, ▶, ▲ and ▼ arrow keys.

1-3-6. 2/4-pole Mg adjustment

(1) Set the internal oscillation mode to P5 (64 kHz),
Press the PATTERN key and select the DOT pattern.
(2) Press the CUTOFF R and B keys and set GREEN only.
(If the DOT appears blur, press the + CONTR key so that it becomes clear.)
(3) Rotate G4 VOL GREEN in the counterclockwise direction, and output flair around the dots.
(4) While looking at the dots at the center, adjust the 2-pole Mg so that the luminance points come to the center of the flare. (See Fig. 4.)
(5) Rotate G4 VOL GREEN in the clockwise direction.
(6) Adjust the 4-pole Mg so that the dots become dead-round. (See Fig. 1.)

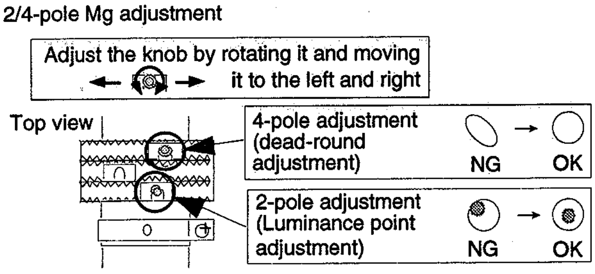

2/4-pole Mg adjustment
Adjust the knob by rotating it and moving it to the left and right
Top view
4-pole adjustment (dead-round adjustment)
NG
OK
2-pole adjustment (Luminance point adjustment)
NG
OK

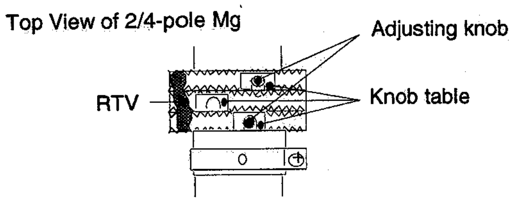
Fig. 4

(7) Adjust the 2-pole Mg and 4-pole Mg while performing tracking 2 or 3 times.

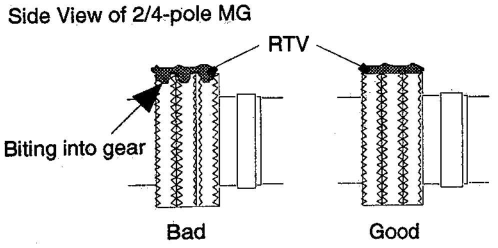
* The 2/4-pole Mg should be attached firmly to the Sub DY.

(8) Adjust the RED and BLUE 2/4-pole MG in the same way.
(9) Apply RTV to the 2/4-pole Mgs of RED, GREEN, and BLUE to secure them.
(See Fig. 5.)
(10) Set the internal oscillation mode back to P3.

Applying RTV



* Do not apply RTV on the adjusting knob and knob table.

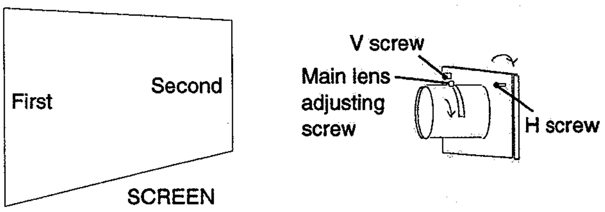


* Do not apply inside the gear.

Fig. 5

1-3-7. Zenith angle adjustment

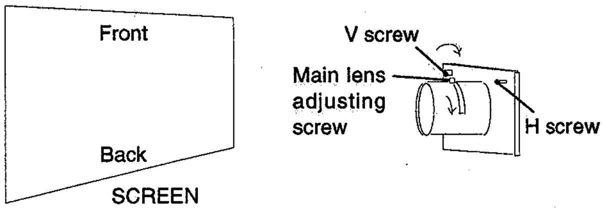
(1) Press the PATTERN key, and select the ME pattern.
(2) Press the CUT OFF R and G keys to set only GREEN.
(3) Adjust the electrical focus (G4VOL) so that the focus of the screen center becomes correct.
(4) Adjust RED and BLUE in the same way.
(5) Set GREEN only again, and decrease the data value using the – CONTR key until the DOT of the ME pattern becomes clear.
(6) Loosen the screws securing the zenith angle adjusting screws for R, G, and B.
(7) Rotate and adjust the zenith angle adjusting screw of H so that the left and right focuses of the screen become correct.



Rotate the main focus lens in the clockwise direction, and if the left focuses at first and the right at second, rotate the H adjusting screw in the clockwise direction.

Fig. 6

(8) Rotate and adjust the zenith angle adjusting screw of V so that the top and bottom focuses of the screen become correct.



Rotate the main focus lens in the clockwise direction, and if the top focuses at first and the bottom at second, rotate the V adjusting screw in the clockwise direction.

Fig. 7

(9) After completing the top and bottom focus adjustment, check that the left and right focuses are correct.
(If they are not, re-adjust them again, and then check again of the top and bottom focuses are correct.)
(10) Tighten the screws securing the zenith angle adjusting screws temporarily.
(11) Check again if the top, bottom, left, and right focuses are correct.
(If they are not, loosen the screws securing the zenith angle adjusting screws, and adjust the zenith angle.)
(12) Adjust the main lens, and adjust the focus of the screen center.
(13) Adjust the peripheral lens, and adjust the focus of the screen corners.
(14) Adjust RED and BLUE in the same way.
(15)Secure the screws securing the zenith angle adjusting screws.

Screw tightening torque for securing the zenith angle adjusting screw: 1.2N • Cm (12KgF • Cm)

(16) Secure the main lens and peripheral lens adjusting knob screws.

Main lens:Tightening torque:0.9N • Cm (9KgF • Cm)
Peripheral lens:Tightening torque:0.9N • Cm (9KgF • Cm)

1-3-8. Electrical focus adjustment

(1) Set INPUT-A to the no-signal state, and press the INPUT-A key.
(2) Set the CONTR data to 80 using the + and – CONTR keys.
(3) Press the PATTERN key and set the reverse ME pattern on the screen.
(4) Cover RED and BLUE with a lens cap to set GREEN only.
(5) Rotate and adjust the electrical focus (G4 VOL) GREEN and focus correctly.
(6) Adjust RED and BLUE in the same way.

1-3-9. HWC adjustment

(1) Press the INPUT VIDEO key, and input the monoscope signal.
(2) Press the REGISTRATION SIZE key, and press the ADJ G key.
(3) Check that the H SIZE data is 128.

* If it is not, adjust to 128 using the ◀ and ▶ arrow keys.

(4) Press the ADJ R key, and check as above.
(5) Press the ADJ B key, and check as above.
(6) Press the REGISTRATION CENT key, and press the ADJ G key.
(7) Press the CUT OFF R and B keys to set GREEN only.
(8) Adjust so that the center of the cross-hair comes to the center line of the screen using the ◀, ▶, ▲ and ▼ arrow keys.
If V.SKEW and V.BOW are not correct, adjust them to the horizontal line of the screen.
(9) Press the ADJ R key, and adjust as above. (Adjust to GREEN.)
(10) Press the ADJ B key, and adjust as above. (Adjust to GREEN.)
(11) Output the three colors R, G, and B, and while looking at the two ends on the left and right of the horizontal cross-hair, if the RED and BLUE H.LINs are not coinciding with that of GREEN, adjust them so that the left and right differences become the same.
(12) Press the MEMORY key.
(13) Adjust LV1 (BLUE), LV2 (GREEN), and LV3 (RED) of the E board so that the H sizes of two colors (RED, GREEN, or BLUE) become the same as the color with the smallest H size.
(14) Press the REGISTRATION SIZE key, and press the ADJ G key.
(15) Press the CUT OFF R and B keys to set GREEN only.
(16) Adjust so that the outer circumference line of the cross-hair is 20 to 40 mm inside the effective frame of the screen using the ◀, ▶, ▲ and ▼ arrow keys. If V.LIN is not correct, adjust by performing SIZE and LIN tracking.
(17) Press the KEY key, and adjust so that the lengths of the top horizontal line and bottom horizontal line become the same using the ◀ and ▶ arrow keys.
(18) Press the Pin key, and adjust so that the top, bottom, left, and right horizontal and vertical lines become straight using the ◀, ▶, ▲ and ▼ arrow keys.
(19) Press the RGB SIZE key, and set the H.SIZE data to 220 using the ◀ and ▶ arrow keys.
(20) Press the RGB SHIFT key and adjust the monoscope center to the screen center.
(21) Cover RED and BLUE with a lens cap.
(22) Look at the left and right ends of the monoscope, and if H.LIN is not correct, press the REGISTRATION LIN key again and adjust LIN.
(23) Rotate RV101 (H SIZE) of the E board and adjust it so that the H size of the monoscope becomes 16 frames.
(24) Adjust the H size of the monoscope to 16 frames using the ◀ and ▶ arrow keys.
(25) Adjust the V size of the monoscope to 12 frames using the ▲ and ▼ arrow keys.
(26) Check that the monoscope center is coinciding with the screen center.
(If it is not, adjust by RGB SHIFT again.)
(27) Press the MEMORY key.

1-3-10. Pick up coil adjustment

(1) Press the INPUT-A key, and input the specified signal.
Specified signal:No. 25 (all white), fH:3.5 kHz, fV:66.667 Hz
(Refer to Page 3-11.)
(2) Press the CUT OFF R and G keys to set only BLUE.
(3) While looking at the screen, adjust RV1 (B.C ADJ (B)) of the DA board so that the beat becomes minimum.
(4) Press the CUT OFF R and B keys to set only GREEN.
(5) While looking at the screen, adjust RV2 (B.C ADJ (G)) of the DA board so that the beat becomes minimum.
(6) Set to all white using the CUT OFF B and R keys.
(7) Switch the input signal to No. 26, No. 27, and No. 28, and check that there is no async beat.

Input signals:
No. 26 (all white) fH:37.879 kHz, fV:60.32 Hz
No. 27 (all white) fH:56.476 kHz, fV:70.069 Hz
No. 28 (all white) fH:33.75 kHz, fV:60 Hz
(Refer to 3-11.)

1-4. Registration Adjustment

1-4-1. Internal oscillation P3 mode

(1) Press the INPUT-A key and set the NO INPUT (31.5 KHz) state.

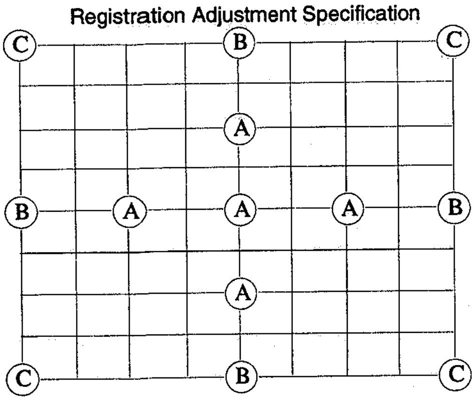
(2) Press the REGISTRATION CENT key and ADJ G key, and set the GREEN adjustment mode.

(3) Adjust so that the vertical and horizontal lines come to the center line of the screen using the the ◀, ▶, ▲ and ▼ arrow keys.

(4) Press the REGISTRATION SIZE key, and adjust so that the outer circumference of the cross-hair is at the approximately 30 m/m position inside the screen using the ◀, ▶, ▲ and ▼ arrow keys.

(5) Set the modes LIN, SKEW, BOW, KEY, KEY BALANCE, PIN, PIN BALANCE, ZONE (Do not use ZONE as much as possible. Of the 21 blocks, adjust only the No.2 and No. 9 blocks.), and adjust to the respective specified values using the arrow keys.
(See Fig. 8.)

Registration Adjustment Specification



Measuring point:Center between luminance points

Ⓐ:Below 2 m/m
Ⓑ:Below 3m/m
Ⓒ:Below 4m/m

Fig. 8

- During the adjustment, adjust SIZE and CENT if they have deviated.

(6) Press the MEMORY key.

(7) Press the REGISTRATION CENT key and ADJ R key, and adjust the RED vertical and horizontal lines to the GREEN center line using the ◀, ▶, ▲ and ▼ keys.

(8) Press the REGISTRATION SIZE key, and adjust so that the outer circumference of the cross-hair is at the approximately 30 m/m position inside the screen using the the ◀, ▶, ▲ and ▼ arrow keys.

(9) Set the modes LIN, SKEW, BOW, KEY, KEY BALANCE, PIN, PIN BALANCE, ZONE (For ZONE of 21 blocks, adjust only the No.2 to No.9 blocks.), and adjust to the respective specified values using the arrow keys.

- During the adjustment, adjust SIZE, CENT, etc. if they have deviated.

(10) Press the MEMORY key.

(11) Adjust in the same way for BLUE, and press the MEMORY key.

1-4-2. Standard Data Save

(1) Continue pressing the MEMORY key and set the standard data save mode, and perform standard data save.

1-4-3. INPUT MEMORY NO. 0,1,3,4 Adjustment

(1) Press the INPUT-A key and set the NO INPUT (31.5 KHz) state.
Next, set the internal oscillation mode to P1 by the service setting in the MENU.

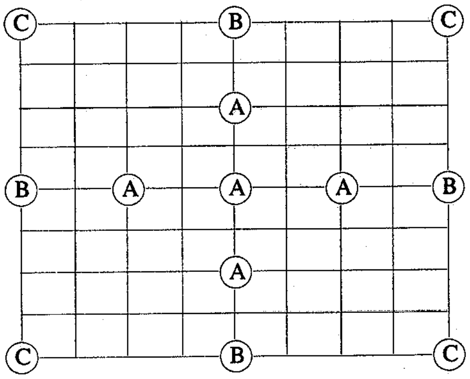
(2) Press the REGISTRATION CENT key and ADJ G key, and set the GREEN adjustment mode.

(3) Adjust the vertical and horizontal lines to the center line of the screen using the ◀, ▶, ▲ and ▼ arrow keys.

(4) Press the REGISTRATION SIZE key, and adjust the outer circumference of the cross-hair to the approximately 30 m/m position inside the screen using the ◀, ▶, ▲ and ▼ arrow keys.

(5) Set the modes LIN, SKEW, BOW, KEY, KEY BALANCE, PIN, PIN BALANCE, ZONE (For ZONE of the 21 blocks, adjust only the No.2 to No.9 blocks.), and adjust to the respective specified values using the arrow keys. (See Fig. 9.)

Registration Adjustment Specification



Measuring point:Center between luminance points

Ⓐ:Below 2 m/m
Ⓑ:Below 3 m/m
Ⓒ:Below 4 m/m

Fig. 9

- During the adjustment, adjust SIZE, CENTER, etc. if they have deviated.

(6) Press the MEMORY key.

(7) Press the REGISTRATION CENT key and ADJ R key, adjust the RED vertical and horizontal lines to the GREEN center line of the screen using the ◀, ▶, ▲ and ▼ arrow keys.

(8) Press the REGISTRATION SIZE key, and adjust the outer circumference of the cross-hair to the approximately 30 m/m position inside the screen using the ◀, ▶, ▲ and ▼ arrow keys.

(9) Set the modes LIN, SKEW, BOW, KEY, KEY BALANCE, PIN, PIN BALANCE, ZONE (For ZONE of 21 blocks, adjust only the No.2 to No.9 blocks.), and adjust to the respective specified values using the arrow keys.

* During the adjustment, adjust SIZE, CENT, etc. if they have deviated.

(10) Press the MEMORY key.

(11) Adjust in the same way for BLUE, and press the MEMORY key.

(12) Adjust in the same way for internal oscillation modes P2, P4, and P5.

1-4-4. CENT Adjustment in Polarity Conversion

(1) Turn OFF the power of the unit, open the polarity change cover, connect the horizontal polarity change connector, and close the polarity change cover.
Turn ON the power.

Positions of connectors: R CN531→CN532
G CN533→CN534
B CN535→CN536

(2) Set INPUT-A to the no-signal state.
Set back the internal oscillation mode to P3.

(3) Press the REGISTRATION CENT key, and set the center adjustment mode.

(4) Press the ADJ G key, and adjust the center of the cross-hatch to the center of the screen using the ◀ and ▶ arrow keys.

(5) Press the ADJ R key, and adjust the center of the cross-hatch to the center of the screen using the ◀ and ▶ arrow keys.

(6) Press the ADJ B key, and adjust the center of the cross-hatch to the center of the screen using the ◀ and ▶ arrow keys.

(7) Press the MEMORY key.

(8) Turn OFF the power, open the polarity change cover, and return the horizontal polarity change connector to the original position.

(9) Turn ON the power of the unit.

1-6. White Balance Adjustment

1-6-1. CUT OFF Check

(1) Input the 40IRE all white signal into the C.VIDEO input.

(2) Set the MENU MODE, and check that ABG is ON.
(If it is not, set it to ON.)

(3) In the same way, check if the color temperature is 9300K and SCREEN SEL is S1.
(If they are not, set them to S1.)

(4) Press the W/B BIAS key, and check that each BIAS data is as follows.

BIAS RESET values: R:128
G:128
B:128

(5) Press the W/B GAIN key, and record each value.

(6) Adjust the RED and GREEN values of W/B GAIN to "73" and "148" respectively.

(7) Set the CONTR data to 80 and BRT data to 50.

(8) Attach the W/B measuring device, and check that the GREEN luminance is within the specification.

W/B measuring device (Color analyzer)
Model:PWM-801 (SONY)
Calibration coefficients: R/G:1.082
B/G:0.980

Specified value: $\boxed{3.0\ \text{nit}}$

(9) If it is not, open the DE bracket, and adjust it to the specified value using RV1301 (BKG LEVEL) of the A board.

1-6-2. BLUE Defocus Adjustment

(1) Press the INPUT VIDEO key, and input the 100IRE all white signal.

(2) Set the CONTR data to 80 and BRT data to 50.

(3) Rotate the electrical focus adjustment (G4 VOL) BLUE until the BLUE luminance becomes minimum, and take this value as x.

(4) Rotate the electrical focus adjustment (G4 VOL) BLUE in the counterclockwise direction so that the BLUE luminance Y becomes $xX1.29 \leqq Y \leqq xX1.31$.

1-6-3. Color Temperature 9300K Adjustment
(Color temperature diagram: x=0.284, y=0.297)

(1) Press the INPUT VIDEO key, and input the 100 IRE all white signal.
(2) Press the W/B GAIN key, and select 9300 using the POSITION +/- keys.
(3) Press the PATTERN key three times to set the external signal.
(4) Press the ADJ R key to set the RED adjustment mode.
(5) Set the display to 73 using the ◀ and ▶ arrow keys.
(6) Press the ADJ G key to set the GREEN adjustment mode.
(7) Set the display to 48 using the ◀ and ▶ arrow keys.
(8) Press the ADJ B key to set the BLUE adjustment mode.
(9) Check that the BLUE GAIN data is the same as that in "1-6-1. CUT OFF Check" using the ◀ and ▶ arrow keys.
(10) Press the STATUS OFF key, turn OFF the display, and attach the sensor from the W/B measuring device.

W/B measuring device (Color analyzer)
Model: PWB-801 (SONY)
Calibration coefficients: R/G: 1.082
B/G: 0.980

(11) Switch to the 10 IRE all white signal.
(12) Press the BIAS key.
(13) Press the ADJ G key, and adjust the Y value of the W/B measuring device to 1.00 using the ◀ and ▶ arrow keys.
(14) Press the ADJ R key, and adjust the R/G value of the W/B measuring device to 1.00 using the ◀ and ▶ arrow keys.
(15) Press the ADJ B key, and adjust the B/G value of the W/B measuring device to 1.0 using the ◀ and ▶ arrow keys.
(16) Switch to the 100 IRE all white signal.
(17) Press the GAIN key to set the gain adjustment mode.
(18) Press the ADJ G key, and set the B/G value of the measuring device to 1.00 using the ◀ and ▶ arrow keys.
(19) Press the ADJ R key, and set the R/G value of the measuring device to 1.00 using the ◀ and ▶ arrow keys.
(20) Repeat the cutoff adjustment in steps (11) to (15) and the highlight adjustment in steps (16) to (19) several times to adjust the tracking.
(21) When the specifications are satisfied, press the MEMORY key and memorize the 9300K data.

W/B 9300K+8MPCD specifications:
Cutoff: R/G: 1.00±0.15
B/G: 1.00±0.15
Y: 1.00±0.10

Highlight: R/G:1.00±0.10
B/G:1.00±0.10

(22) Remove the sensor from the lens.

1-6-4. Color Temperature 6500K Adjustment
(Color temperature diagram:x=0.313, y=0.329)

(1) Press the INPUT VIDEO key, and input the 100 IRE all white signal.
(2) Press the W/B GAIN key, and select 6500K using the POSITION +/– keys.
(3) Press the PATTERN key three times to set the external signal.
(4) Press the ADJ R key to set the RED adjustment mode.
(5) Set the display to 143 using the ◀ and ▶ arrow keys.
(6) Press the ADJ G key to set the GREEN adjustment mode.
(7) Set the display to 202 using the ◀ and ▶ arrow keys.
(8) Press the ADJ B key to set the BLUE adjustment mode.
(9) Check that the BLUE GAIN data is the same as that in "1-6-1. CUT OFF Check" using the ◀ and ▶ arrow keys.
(10) Press the STATUS OFF key, turn OFF the display, and attach the sensor from the W/B measuring device.

W/B measuring device (Color analyzer)
Model: PWB-801 (SONY)
Calibration coefficients: R/G: 1.082
B/G: 0.980

(11) Switch to the 10 IRE all white signal.
(12) Press the BIAS key, and output the 10 IRE all white signal.
(13) Press the ADJ G key, and adjust the Y value of the W/B measuring device to 1.00 using the ◀ and ▶ arrow keys.
(14) Press the ADJ R key, and adjust the R/G value of the W/B measuring device to 1.16 using the ◀ and ▶ arrow keys.
(15) Press the ADJ B key, and adjust the B/G value of the W/B measuring device to 0.72 using the ◀ and ▶ arrow keys.
(16) Switch to the 100 IRE all white signal.
(17) Press the GAIN key to set the gain adjustment mode.
(18) Press the ADJ G key, and set the B/G value of the measuring device to 1.16 using the ◀ and ▶ arrow keys.

* If the GREEN GAIN data exceeds the data of "1-6-1. CUT OFF Check" data, set it to the data, and adjust the RED and BLUE GAIN by decreasing the GREEN GAIN data.

(19) Press the ADJ R key, and set the R/G value of the measuring device to 0.72 using the ◀ and ▶ arrow keys.
(20) Repeat the cutoff adjustment in steps (11) to (15) and the highlight adjustment in steps (16) to (19) several times to adjust the tracking.

(21) When the specifications are satisfied, press the MEMORY key and memorize the 6500K data.

W/B 9300K+8MPCD specifications:
Cutoff: R/G: 1.16±1.15
B/G: 0.72±0.15
Y: 1.00±0.10

Highlight: R/G: 1.16±1.10
B/G: 0.72±0.10

(22) Remove the sensor from the lens.

1-6-5. Color Temperature 5400K Adjustment
(Color temperature diagram:x=0.335, y=0.349)

(1) Press the INPUT VIDEO key, and input the 100 IRE all white signal.
(2) Press the W/B GAIN key, and select 5400K using the POSITION +/– keys.
(3) Press the PATTERN key three times to set the external signal.
(4) Press the ADJ R key to set the RED adjustment mode.
(5) Set the display to 186 using the ◀ and ▶ arrow keys.
(6) Press the ADJ G key to set the GREEN adjustment mode.
(7) Check that the GREEN GAIN data is the same as that in "1-6-1. CUT OFF Check" using the ◀ and ▶ arrow keys.
Set the display to 48 using the ◀ and ▶ arrow keys.
(8) Press the ADJ B key to set the BLUE adjustment mode.
(9) Set the display to 210 using the ◀ and ▶ arrow keys.
(10) Press the STATUS OFF key, turn OFF the display, and attach the sensor from the W/B measuring device.

W/B measuring device (Color analyzer)
Model: PWB-801 (SONY)
Calibration coefficients: R/G: 1.082
B/G: 0.980

(11) Switch to the 10IRE all white signal.
(12) Press the BIAS key, and output the 10IRE all white signal.
(13) Press the ADJ G key, and adjust the Y value of the W/B measuring device to 1.00 using the ◀ and ▶ arrow keys.
(14) Press the ADJ R key, and adjust the R/G value of the W/B measuring device to 1.28 using the ◀ and ▶ arrow keys.
(15) Press the ADJ B key, and adjust the B/G value of the W/B measuring device to 0.56 using the ◀ and ▶ arrow keys.
(16) Switch to the 100IRE all white signal.
(17) Press the GAIN key to set the gain adjustment mode.
(18) Press the ADJ G key, and set the R/G value of the W/B measuring device to 1.28 using the ◀ and ▶ arrow keys.
(19) Press the ADJ B key, and set the B/G value of the W/B measuring device to 0.56 using the ◀ and ▶ arrow keys.
* If the BLUE GAIN data exceeds the data of "1-6-1. CUT OFF Check" data, set it to the data, and adjust the RED and GREEN GAIN by decreasing the GREEN GAIN data.
(20) Repeat the cutoff adjustment in steps (11) to (15) and the highlight adjustment in steps (16) to (19) several times to adjust the tracking.
(21) When the specifications are satisfied, press the MEMORY key and memorize the 5400K data.

W/B 5400K+8MPCD specifications:
Cutoff: R/G:1.28±0.15
B/G:0.56±0.15
Y:1.00±0.10

Highlight: R/G: 1.28±0.10
B/G: 0.56±0.10

(22) Remove the sensor from the lens.

1-6-6. Color Temperature 3200K Adjustment
(Color temperature diagram:x=0.427, y=0.408)

(1) Press the INPUT VIDEO key, and input the 100IRE all white signal.
(2) Press the W/B GAIN key, and select 3200K using the POSITION +/– keys.
(3) Press the PATTERN key to set the external signal.
(4) Press the ADJ R key to set the RED adjustment mode.
(5) Check that the RED GAIN data is the same as that in "1-6-1. CUT OFF Check" using the ◀ and ▶ arrow keys.
(6) Press the ADJ G key to set the GREEN adjustment mode.
(7) Set the display to 198 using the ◀ and ▶ arrow keys.
(8) Press the ADJ B key to set the BLUE adjustment mode.
(9) Set the display to 44 using the ◀ and ▶ arrow keys.
(10) Press the STATUS OFF key, turn OFF the display, and attach the sensor from the W/B measuring device.

W/B measuring device (Color analyzer)
Model:PWB-801 (SONY)
Calibration coefficients: R/G: 1.082
B/G: 0.980

(11) Switch to the 10 IRE all white signal.
(12) Press the BIAS key, and output the 10 IRE all white signal.
(13) Press the ADJ G key, and adjust the Y value of the W/B measuring device to 1.00 using the ◀ and ▶ arrow keys.
(14) Press the ADJ R key, and adjust the R/G value of the W/B measuring device to 2.25 using the ◀ and ▶ arrow keys.

(15) Press the ADJ B key, and adjust the B/G value of the W/B measuring device to 0.22 using the ◀ and ▶ arrow keys.
(16) Switch to the 100 IRE all white signal.
(17) Press the GAIN key to set the gain adjustment mode.
(18) Press the ADJ G key, and set the R/G value of the measuring device to 2.25 using the ◀ and ▶ arrow keys.
(19) Press the ADJ B key, and set the B/G value of the measuring device to 0.22 using the ◀ and ▶ arrow keys.
(20) Repeat the cutoff adjustment in steps (11) to (15) and the highlight adjustment in steps (16) to (19) several times to adjust the tracking.
(21) When the specifications are satisfied, press the MEMORY key and memorize the 3200K data.

W/B 3200K+8MPCD specifications:
Cutoff: R/G: 2.25±0.15
B/G: 0.22±0.15
Y: 1.00±0.10

Highlight: R/G: 2.25±0.10
B/G: 0.22±0.10

(22) Remove the sensor from the lens.
(23) Press the STATUS ON key, and set the display.
(24) Select 6500K, and press the MEMORY key.

1-6-7. Color Temperature PRESET Adjustment

(1) Press the W/B GAIN key, and select PRESET using the POSITION +/– keys.
(2) Input the GAIN and BIAS data of 6500K.
(3) Press the MEMORY key.
(4) Select 6500K using the POSITION +/– keys.
(5) Press the MEMORY key.

1-6-8. S2 Settings

(1) Press the MENU key, and select S2 at the SEL menu of the SET SETTING screen.
(2) Deduct 26 from the S1 GAIN data for RED and 19 for GREEN and input to 9300K, 6500K, 5400K, 3200K, and PRESET. The BIAS data must be inputted the same value as S1.
(3) Set screen SEL to S1.

1-6-9. High Voltage Screen Distortion Adjustment

[1] RV adjustment

(1) Press the INPUT-A key, and input the fH:31.5 kHz RGB stripe signal.
(2) Continue pressing the CONTR and BRIGHT + keys until these levels are maximum.
(3) Adjust RV102 of the E board (HV CORRECT) until the left and right vertical lines of the stripes become straight.

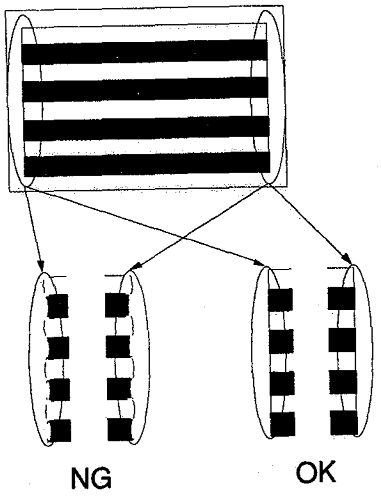


Fig. 10

Note) After completing the adjustment, open the ED bracket, and disconnect the 2P short-connector of CN932 of the M board with the power ON.

1-7. Creating the FACTORY Data

(1) Press the POWER OFF key of the remote commander, and set the standby mode.
(2) Open the DE bracket, disconnect the 2P short-connector inserted to CM932 of the M board, and insert into CN933 (FACTORY data is created when disconnected).

VPH-D50 ADJUSTMENT TIMING & ROM DATA

	INPUT MEM No.0	INPUT MEM No.1	INPUT MEM No.2	INPUT MEM No.3	INPUT MEM No.4	INPUT MEM No.5	INPUT MEM No.6
	VIDEO/NTSC	PC98	VESA	VESA	VESA	IDTV	HiVision
HORIZONTAL							
fH (kHz)	15.75	24.83	31.469	48.363	63.981	31.5	33.75
	µs (dot)	µs(dot)	µs(dot)	µs(dot)	µs(dot)	µs(dot)	µs(dot)
H.TOTAL	63.492(910)	40.28(848)	31.778(800)	20.677(1344)	15.630(1688)	31.746(910)	29.63(2200)
H.disp area	53.026(760)	30.40(640)	25.422(640)	15.754(1024)	11.852(1280)	26.513(760)	25.86(1920)
H.sync width	4.744(68)	3.04(64)	3.813(96)	2.092(136)	1.037(112)	2.372(68)	0.593*2(88)
H.front porch	2.562(18)	3.04(64)	0.636(16)	0.369(24)	0.444(48)	1.326(18)	0.592(44)
H.back porch	4.466(64)	3.80(80)	1.907(48)	2.462(160)	2.296(248)	2.233(64)	1.993(148)
H.sync pol	Composite Video	neg	neg	neg	neg	neg	3state
VERTICAL							
fV (Hz)	59.94	56.4	59.94	60	60.02	59.94	60
	line(ms)	line(ms)	line(ms)	line(ms)	line(ms)	line(ms)	line(ms)
V.TOTAL	262.5(16.67)	440(17.72)	525(16.683)	806(16.667)	1066(16.661)	525(16.67)	562.5(16.67)
V.disp line	244.5(15.52)	400(16.11)	480(15.253)	768(15.830)	1024(16.005)	489(15.52)	517.5(15.33)
V.sync width	3(0.19)	8(0.322)	2(0.064)	6(0.124)	3(0.047)	6(0.19)	5(0.148)
V.front porch	3(0.19)	7(0.282)	10(0.318)	3(0.062)	1(0.016)	6(0.19)	5(5.5)
V.back porch	12(0.76)	25(1.01)	33(1.048)	29(0.600)	38(0.594)	24(0.76)	35(34.5)
V.sync pol			neg	neg	neg	neg	
1 dot	14.318	21.05	25.175	65	108	28.636	74.25
resolution	720x480	640x400	640x480	1024x768	1280x1024	720x480	1920x1035
INPUT	C.VIDEO	INPUT A	INPUT A	INPUT A	INPUT A	C.VIDEO	INPUT A
						INT.IDTV	

No.	No.25(All White)	No.26(All White)	No.27(All White)	No.28(All White)			
HORIZONTAL							
fH (kHz)	35	37.879	56.476	33.75			
	µs(dot)	µs(dot)	µs(dot)	µs(dot)			
H.TOTAL	28.57(864)	26.4(1056)		29.63(2200)			
H.disp area	21.16(640)	20.00(800)		25.86(1920)			
H.sync width	2.12(64)	3.2(128)		0.593*2(88)			
H.front porch				0.592(44)			
H.back porch	3.18(96)	2.2(88)		1.993(148)			
H.sync pol	neg	neg	neg	3state			
VERTICAL							
fV (Hz)	66.667	60.32	70.069	60			
	line(ms)	line(ms)	line(ms)	line(ms)			
V.TOTAL	525(14.999)	628(16.579)		562.5(16.67)			
V.disp line	480(13.714)	600(15.840)		517.5(15.33)			
V.sync width	3(0.086)	4(0.106)		5(0.148)			
V.front porch				5(5.5)			
V.back porch	39(1.114)	23(0.607)		35(34.5)			
V.sync pol	neg		neg				
1 dot	30.24	40		74.25			
resolution				1920x1035			
INPUT	INPUT A	INPUT A	INPUT A	INPUT A			

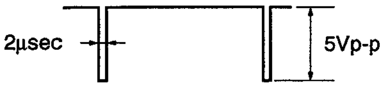
3-3-4. EA Board Adjustment

- * Remove the EA board from the unit, and connect an extension board.
- * Check the input power supply voltage.

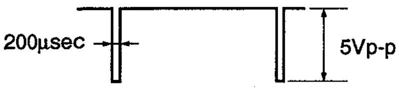
CN522 of EA board
Pin ⑧: 15±0.1V
Pin ⑮: –12V±0.2V
Pin ⑯: –6V±0.2V
Pin ⑰: GND
Pin ⑱: GND
Pin ⑲: 6V±0.2V
Pin ⑳: 12V±0.2V

- * Check the input signal.

CN521 of EA board
Pin ⑱:H SYNC (fH:15.7 to 64±0.2 kHz)



Pin ⑳: V SYNC (fV: 60±1 Hz)



1. FV Voltage Adjustment

1. Connect a jumper wire between Pins ⑰ and ⑲ of CN521.
2. Set H SYNC and V SYNC to fH: 35 kHz and fV: 60 Hz respectively.
3. Connect a digital voltmeter to TP16 (F/V CHECK).
4. Adjust RV2 (F/V CONT) so that the voltage becomes 2±0.05V.
5. Disconnect the jumper wire.

2. RGB AFC Adjustment

1. Turn OFF S2 (AFC).
2. Connect an oscilloscope to TP1 (12V HD), and connect a trigger to TP9 (H SYNC).
3. Adjust RV3 so that 12V HD locks.
4. Turn ON SW2 (AFC), and check that AFC is fetched.

3. VIDEO AFC Adjustment

1. Set Pin ⑩ of CN521 to High.
2. Set H SYNC and V SYNC to fH: 15.7 kHz and fV: 60 Hz respectively. (TP9 and TP8)
3. Turn OFF S2 (AFC).
4. Connect an oscilloscope to TP1 (12V HD), and connect a trigger to TP9 (H SYNC).
5. Adjust RV4 so that 12V HD locks.
6. Turn ON S2 (AFC), and check that AFC is fetched.

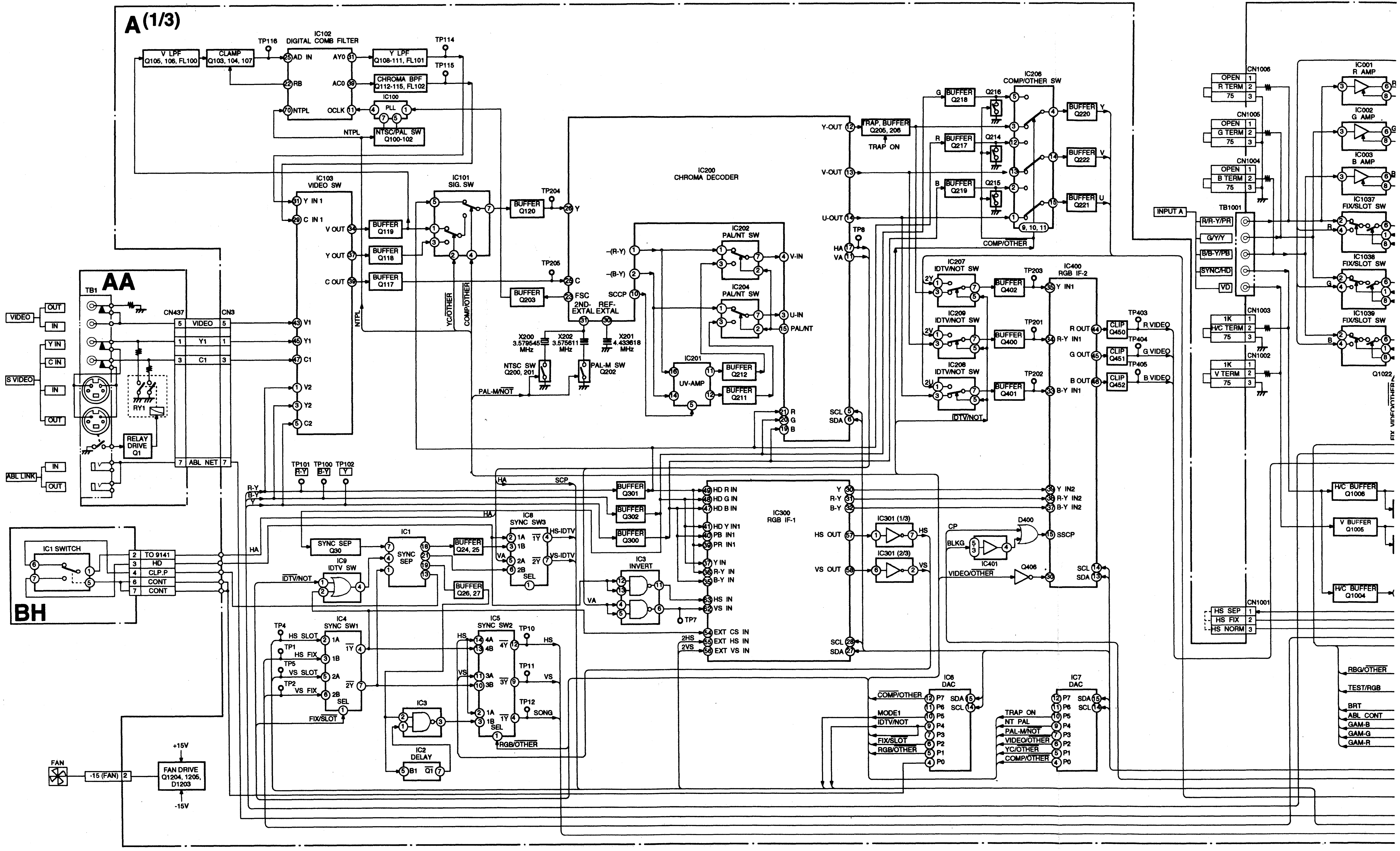
4. V HOLD Adjustment

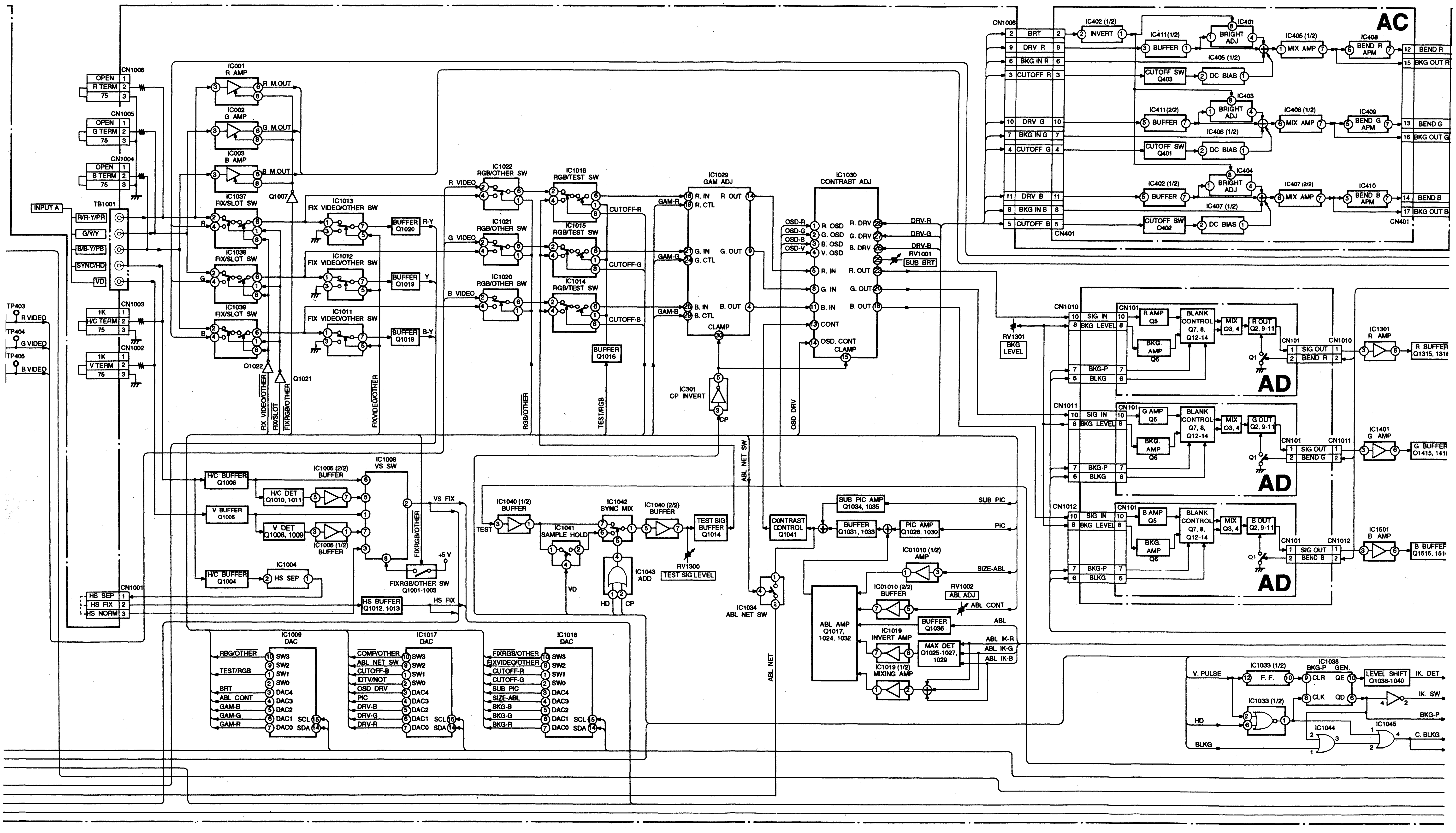
1. Turn OFF S1 (V HOLD).
2. Connect an oscilloscope to TP6 (VD).
3. Adjust RV1 so that the CD output becomes 50 Hz.
4. Turn ON S1 (V HOLD) just before adjustment.
5. Check that TP6 (VD) is 60 Hz.

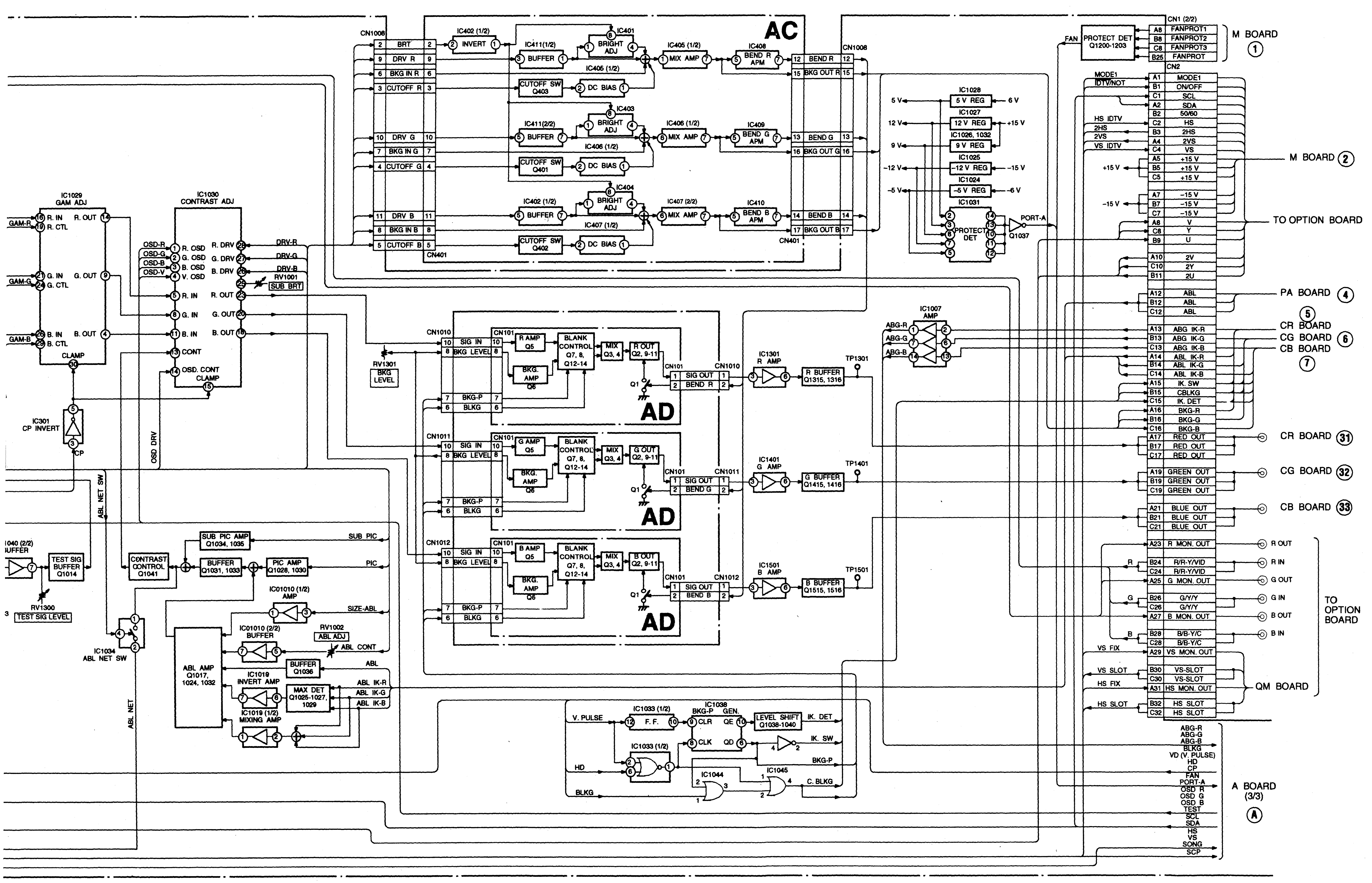
SECTION 4
DIAGRAMS

4-1. BLOCK DIAGRAMS

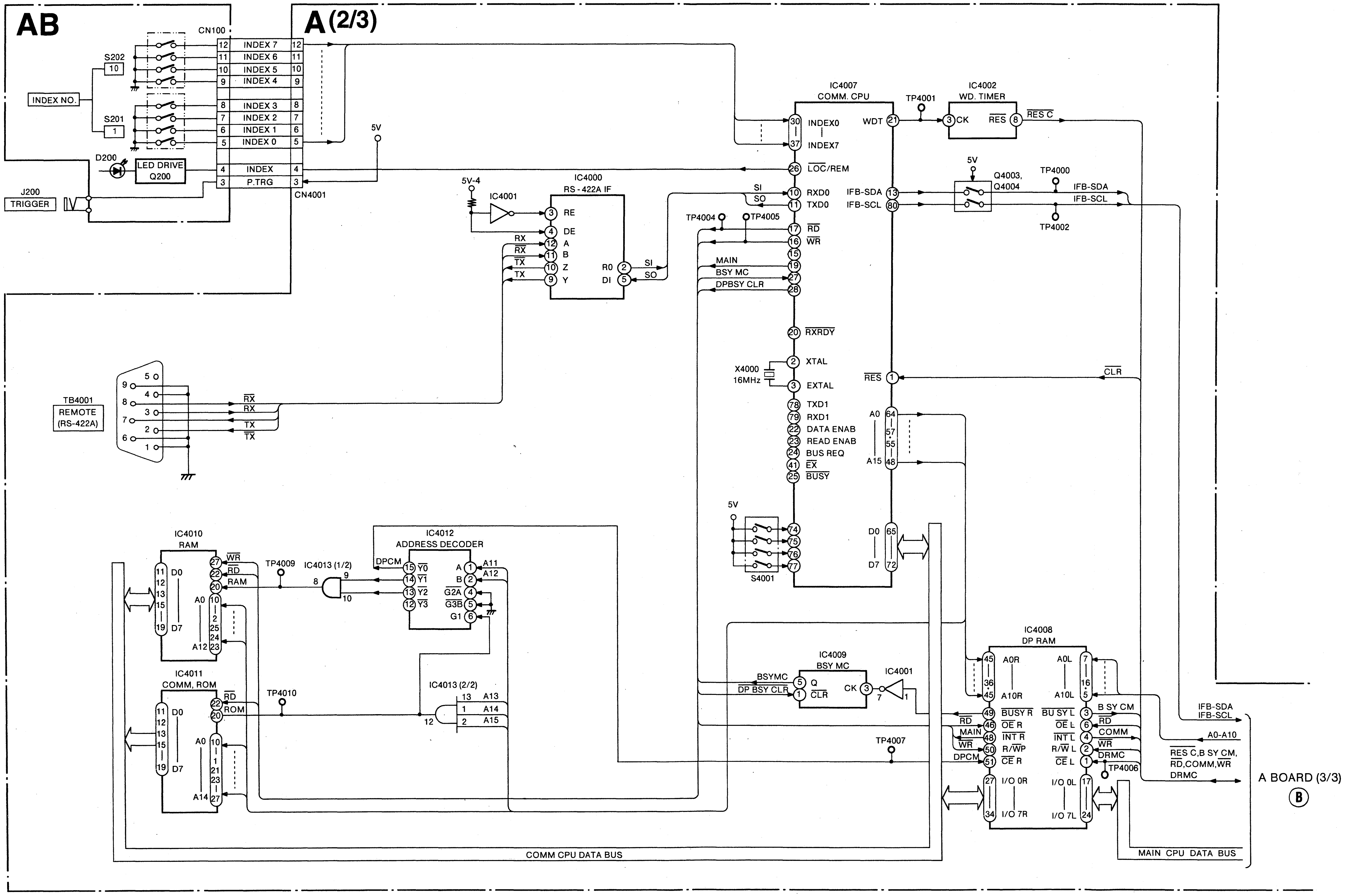
- **A (1/3), AA, AC, AD and BH Board Block Diagrams**


A(1/3)
V LPF Q105, 106, FL100
CLAMP Q103, 104, 107
TP116
IC102 DIGITAL COMB FILTER
AD IN
RB
NTPL
AY0
AC0
OCLK
Y LPF Q108-111, FL101
CHROMA BPF Q112-115, FL102
IC100 PLL
NTSC/PAL SW Q100-102
NTPL
TP114
TP115
IC103 VIDEO SW
Y IN1
C IN1
V OUT
Y OUT
C OUT
V1
Y1
C1
V2
Y2
C2
BUFFER Q119
BUFFER Q118
BUFFER Q117
IC101 SIG. SW
BUFFER Q120
TP204
TP205
BUFFER Q203
YC/OTHER
COMP/OTHER
NTPL
IC200 CHROMA DECODER
Y
C
FSC
2ND-EXTAL
REF-EXTAL
SCCP
-(R-Y)
-(B-Y)
X200 3.579545 MHz
X202 3.575611 MHz
X201 4.433618 MHz
NTSC SW Q200, 201
PAL-M SW Q202
PAL-M/NOT
IC202 PAL/NT SW
IC204 PAL/NT SW
V-IN
U-IN
PAL/NT
IC201 UV-AMP
BUFFER Q212
BUFFER Q211
R
G
B
Y-OUT
V-OUT
U-OUT
HA
VA
TP8
SCL
SDA
TRAP, BUFFER Q205, 206
TRAP ON
G BUFFER Q218
R BUFFER Q217
B BUFFER Q219
Q216
Q214
Q215
IC206 COMP/OTHER SW
BUFFER Q220 Y
BUFFER Q222 V
BUFFER Q221 U
9, 10, 11
COMP/OTHER
IC207 IDTV/NOT SW
IC209 IDTV/NOT SW
IC208 IDTV/NOT SW
2Y
2U
2V
BUFFER Q402
BUFFER Q400
BUFFER Q401
IDTV/NOT
TP203
TP201
TP202
IC400 RGB IF-2
Y IN1
R-Y IN1
B-Y IN1
R OUT
G OUT
B OUT
CLIP Q450
CLIP Q451
CLIP Q452
TP403
TP404
TP405
R VIDEO
G VIDEO
B VIDEO
Y IN2
R-Y IN2
B-Y IN2
SSCP
SCL
SDA
AA
TB1
VIDEO
OUT
IN
S VIDEO
Y IN
C IN
RY1
RELAY DRIVE Q1
ABL LINK
CN437
CN3
VIDEO
Y1
C1
ABL NET
TP101 R-Y
TP100 B-Y
TP102 Y
R-Y
B-Y
Y
HA
SCP
BUFFER Q301
BUFFER Q302
BUFFER Q300
IC300 RGB IF-1
HD R IN
HD G IN
HD B IN
HD Y IN1
PB IN1
PR IN1
Y IN
R-Y IN
B-Y IN
HS IN
VS IN
EXT CS IN
EXT HS IN
EXT VS IN
2HS
2VS
HS OUT
VS OUT
SCL
SDA
TP7
IC301 (1/3)
IC301 (2/3)
HS
VS
CP
BLKG
IC401
D400
Q406
VIDEO/OTHER
IC8 SYNC SW3
HS-IDTV
VS-IDTV
SEL
IC3 INVERT
VA
SYNC SEP Q30
IC1 SYNC SEP
BUFFER Q24, 25
BUFFER Q26, 27
IC9 IDTV SW
IDTV/NOT
IC4 SYNC SW1
TP4 HS SLOT
TP1 HS FIX
TP5 VS SLOT
TP2 VS FIX
FIX/SLOT
IC5 SYNC SW2
TP10
TP11
TP12
SONG
RGB/OTHER
IC3
IC2 DELAY
BH
IC1 SWITCH
TO 9141
HD
CLP.P
CONT
CONT
FAN
-15 (FAN)
FAN DRIVE Q1204, 1205, D1203
+15V
-15V
IC6 DAC
COMP/OTHER
MODE1
IDTV/NOT
FIX/SLOT
RGB/OTHER
IC7 DAC
TRAP ON
NT PAL
PAL-M/NOT
VIDEO/OTHER
YC/OTHER
COMP/OTHER
P7 P6 P5 P4 P3 P2 P1 P0
OPEN
R TERM
G TERM
B TERM
75
CN1006
CN1005
CN1004
CN1003
CN1002
CN1001
IC001 R AMP
IC002 G AMP
IC003 B AMP
IC1037 FIX/SLOT SW
IC1038 FIX/SLOT SW
IC1039 FIX/SLOT SW
INPUT A
TB1001
R/R-Y/PR
G/Y/Y
B/B-Y/PB
SYNC/HD
VD
1K
H/C TERM
V TERM
Q1022
HS SEP
HS FIX
HS NORM
H/C BUFFER Q1006
V BUFFER Q1005
H/C BUFFER Q1004
RBG/OTHER
TEST/RGB
BRT
ABL CONT
GAM-B
GAM-G
GAM-R


CN1006
OPEN
R TERM
75
CN1005
G TERM
CN1004
B TERM
INPUT A
TB1001
R/R-Y/PR
G/Y/Y
B/B-Y/PB
SYNC/HD
VD
CN1003
1K
H/C TERM
CN1002
V TERM
TP403
R VIDEO
TP404
G VIDEO
TP405
B VIDEO
IC001
R AMP
R M.OUT
IC002
G AMP
G M.OUT
IC003
B AMP
B M.OUT
Q1007
IC1037
FIX/SLOT SW
IC1038
FIX/SLOT SW
IC1039
FIX/SLOT SW
Q1022
Q1021
FIX VIDEO/OTHER
FIX/SLOT
FIXRGB/OTHER
IC1013
FIX VIDEO/OTHER SW
IC1012
FIX VIDEO/OTHER SW
IC1011
FIX VIDEO/OTHER SW
BUFFER Q1020
R-Y
BUFFER Q1019
Y
BUFFER Q1018
B-Y
FIXVIDEO/OTHER
R VIDEO
G VIDEO
B VIDEO
IC1022
RGB/OTHER SW
IC1021
RGB/OTHER SW
IC1020
RGB/OTHER SW
RGB/OTHER
IC1016
RGB/TEST SW
IC1015
RGB/TEST SW
IC1014
RGB/TEST SW
CUTOFF-R
CUTOFF-G
CUTOFF-B
BUFFER Q1016
TEST/RGB
IC1029
GAM ADJ
GAM-R
GAM-G
GAM-B
R. IN
R. CTL
R. OUT
G. IN
G. CTL
G. OUT
B. IN
B. CTL
B. OUT
CLAMP
IC301
CP INVERT
CP
IC1030
CONTRAST ADJ
OSD-R
OSD-G
OSD-B
OSD-V
R. OSD
G. OSD
B. OSD
V. OSD
R. DRV
G. DRV
B. DRV
DRV-R
DRV-G
DRV-B
RV1001
SUB BRT
R. IN
G. IN
B. IN
R. OUT
G. OUT
B. OUT
CONT
OSD. CONT
CLAMP
OSD DRV
ABL NET SW
CN1008
BRT
DRV R
BKG IN R
CUTOFF R
DRV G
BKG IN G
CUTOFF G
DRV B
BKG IN B
CUTOFF B
CN401
IC402 (1/2)
INVERT
IC411(1/2)
BUFFER
IC401
BRIGHT ADJ
IC405 (1/2)
MIX AMP
IC408
BEND R APM
BEND R
BKG OUT R
CUTOFF SW Q403
DC BIAS
IC411(2/2)
IC403
IC406 (1/2)
IC409
BEND G APM
BEND G
BKG OUT G
CUTOFF SW Q401
IC402 (1/2)
IC404
IC407 (2/2)
IC410
BEND B APM
BEND B
BKG OUT B
IC407 (1/2)
CUTOFF SW Q402
AC
CN1010
CN101
SIG IN
BKG LEVEL
R AMP Q5
BKG. AMP Q6
BLANK CONTROL Q7, 8, Q12-14
MIX Q3, 4
R OUT Q2, 9-11
RV1301
BKG LEVEL
BKG-P
BLKG
Q1
SIG OUT
BEND R
CN1010
IC1301
R AMP
R BUFFER Q1315, 1316
AD
CN1011
G AMP Q5
G OUT Q2, 9-11
BEND G
IC1401
G AMP
G BUFFER Q1415, 1416
CN1012
B AMP Q5
B OUT Q2, 9-11
BEND B
IC1501
B AMP
B BUFFER Q1515, 1516
H/C BUFFER Q1006
IC1006 (2/2)
BUFFER
H/C DET Q1010, 1011
V BUFFER Q1005
V DET Q1008, 1009
IC1006 (1/2)
BUFFER
IC1008
VS SW
VS FIX
FIXRGB/OTHER
+5 V
FIXRGB/OTHER SW Q1001-1003
H/C BUFFER Q1004
IC1004
HS SEP
CN1001
HS SEP
HS FIX
HS NORM
HS BUFFER Q1012, 1013
HS FIX
IC1040 (1/2)
BUFFER
TEST
IC1041
SAMPLE HOLD
VD
IC1042
SYNC MIX
IC1040 (2/2)
BUFFER
TEST SIG BUFFER Q1014
RV1300
TEST SIG LEVEL
IC1043
ADD
HD
CP
IC1034
ABL NET SW
ABL NET
CONTRAST CONTROL Q1041
SUB PIC AMP Q1034, 1035
SUB PIC
BUFFER Q1031, 1033
PIC AMP Q1028, 1030
PIC
IC01010 (1/2)
AMP
SIZE-ABL
IC01010 (2/2)
BUFFER
RV1002
ABL ADJ
ABL CONT
ABL AMP Q1017, 1024, 1032
BUFFER Q1036
ABL
IC1019
INVERT AMP
MAX DET Q1025-1027, 1029
ABL IK-R
ABL IK-G
ABL IK-B
IC1019 (1/2)
MIXING AMP
IC1009
DAC
RBG/OTHER
TEST/RGB
BRT
ABL CONT
GAM-B
GAM-G
GAM-R
SW3
SW2
SW1
SW0
DAC4
DAC3
DAC2
DAC1
DAC0
SCL
SDA
IC1017
DAC
COMP/OTHER
ABL NET SW
CUTOFF-B
IDTV/NOT
OSD DRV
PIC
DRV-B
DRV-G
DRV-R
IC1018
DAC
FIXRGB/OTHER
FIXVIDEO/OTHER
CUTOFF-R
CUTOFF-G
SUB PIC
SIZE-ABL
BKG-B
BKG-G
BKG-R
V. PULSE
IC1033 (1/2)
F. F.
IC1038
BKG-P GEN.
CLR
QE
CLK
QD
LEVEL SHIFT Q1038-1040
IK. DET
IK. SW
BKG-P
HD
IC1033 (1/2)
IC1044
IC1045
C. BLKG
BLKG

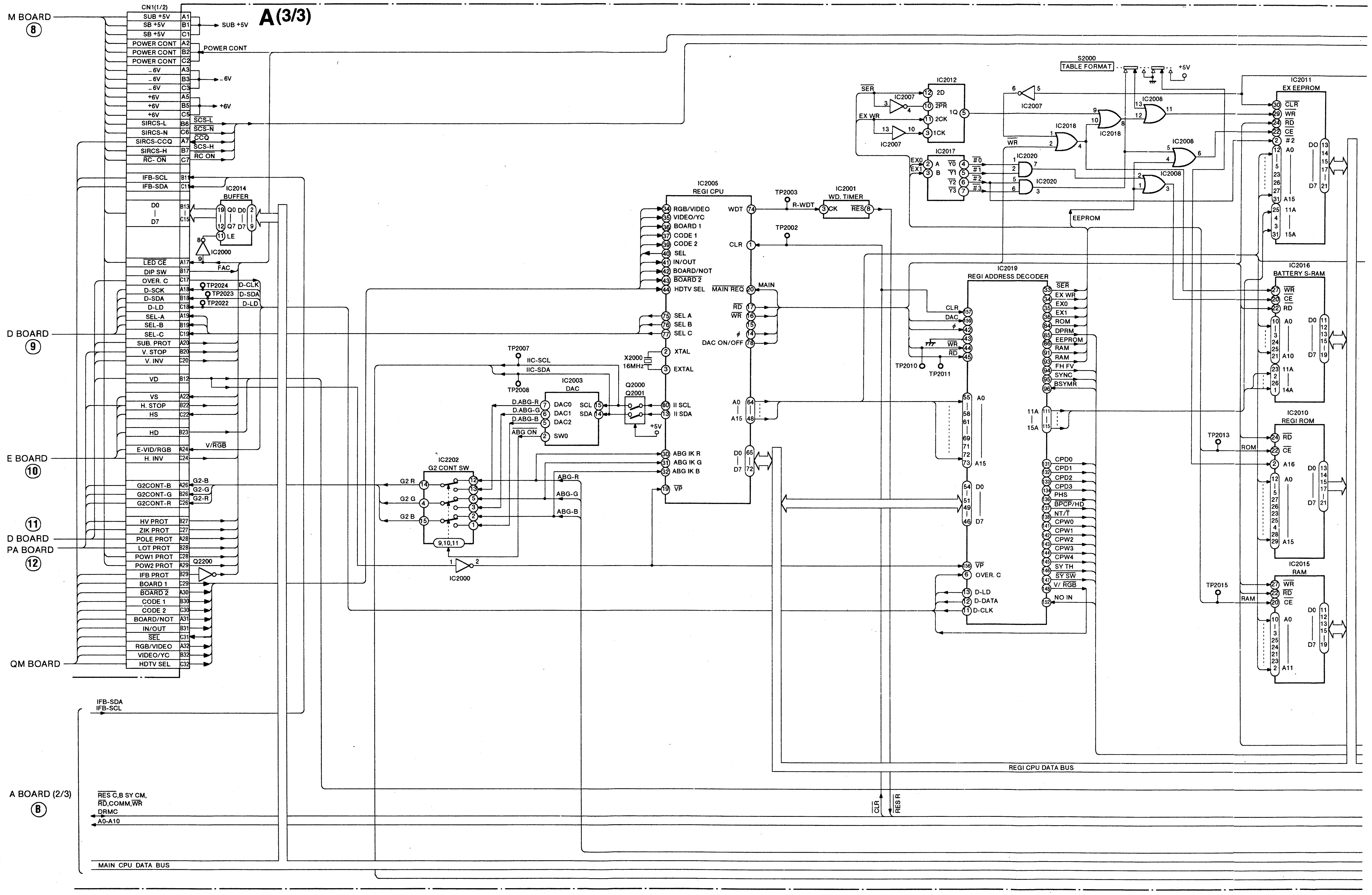

AC
AD
CN1008
BRT
DRV R
BKG IN R
CUTOFF R
DRV G
BKG IN G
CUTOFF G
DRV B
BKG IN B
CUTOFF B
CN401
IC402 (1/2) INVERT
IC411(1/2) BUFFER
IC401 BRIGHT ADJ
IC405 (1/2) MIX AMP
IC408 BEND R APM
CUTOFF SW Q403
DC BIAS
IC411(2/2) BUFFER
IC403 BRIGHT ADJ
IC406 (1/2) MIX AMP
IC409 BEND G APM
CUTOFF SW Q401
IC402 (1/2) BUFFER
IC404 BRIGHT ADJ
IC407 (2/2) MIX AMP
IC410 BEND B APM
CUTOFF SW Q402
BEND R
BKG OUT R
BEND G
BKG OUT G
BEND B
BKG OUT B
IC1029 GAM ADJ
R. IN R. OUT
R. CTL
G. IN G. OUT
G. CTL
B. IN B. OUT
B. CTL
CLAMP
GAM-R
GAM-G
GAM-B
IC1030 CONTRAST ADJ
OSD-R
OSD-G
OSD-B
OSD-V
R. OSD R. DRV
G. OSD G. DRV
B. OSD B. DRV
V. OSD
R. IN R. OUT
G. IN G. OUT
B. IN B. OUT
CONT
OSD. CONT
CLAMP
DRV-R
DRV-G
DRV-B
RV1001 SUB BRT
IC301 CP INVERT
CP
OSD DRV
ABL NET SW
IC1040 (2/2) BUFFER
TEST SIG BUFFER Q1014
RV1300 TEST SIG LEVEL
CONTRAST CONTROL Q1041
SUB PIC AMP Q1034, 1035
SUB PIC
BUFFER Q1031, 1033
PIC AMP Q1028, 1030
PIC
IC01010 (1/2) AMP
SIZE-ABL
IC01010 (2/2) BUFFER
RV1002 ABL ADJ
ABL CONT
IC1034 ABL NET SW
ABL AMP Q1017, 1024, 1032
BUFFER Q1036
ABL
IC1019 INVERT AMP
MAX DET Q1025-1027, 1029
ABL IK-R
ABL IK-G
ABL IK-B
IC1019 (1/2) MIXING AMP
ABL NET
RV1301 BKG LEVEL
CN1010
CN1011
CN1012
CN101
SIG IN
BKG LEVEL
BKG-P
BLKG
R AMP Q5
G AMP Q5
B AMP Q5
BKG. AMP Q6
BLANK CONTROL Q7, 8, Q12-14
MIX Q3, 4
R OUT Q2, 9-11
G OUT Q2, 9-11
B OUT Q2, 9-11
Q1
SIG OUT
BEND R
BEND G
BEND B
IC1301 R AMP
IC1401 G AMP
IC1501 B AMP
R BUFFER Q1315, 1316
G BUFFER Q1415, 1416
B BUFFER Q1515, 1516
TP1301
TP1401
TP1501
IC1007 AMP
ABG-R
ABG-G
ABG-B
V. PULSE
IC1033 (1/2) F. F.
IC1038 BKG-P GEN.
CLR QE
CLK QD
LEVEL SHIFT Q1038-1040
IK. DET
IK. SW
BKG-P
IC1033 (1/2)
HD
BLKG
IC1044
IC1045
C. BLKG
5 V
12 V
9 V
–12 V
–5 V
IC1028 5 V REG 6 V
IC1027 12 V REG +15 V
IC1026, 1032 9 V REG
IC1025 –12 V REG –15 V
IC1024 –5 V REG –6 V
IC1031 PROTECT DET
PORT-A
Q1037
FAN
PROTECT DET Q1200-1203
CN1 (2/2)
A8 FANPROT1
B8 FANPROT2
C8 FANPROT3
B25 FANPROT
M BOARD ①
CN2
MODE1
IDTV/NOT
A1 MODE1
B1 ON/OFF
C1 SCL
A2 SDA
B2 50/60
HS IDTV
2HS
2VS
VS IDTV
C2 HS
B3 2HS
A4 2VS
C4 VS
A5 +15 V
B5 +15 V
C5 +15 V
+15 V
M BOARD ②
–15 V
A7 –15 V
B7 –15 V
C7 –15 V
A8 V
C8 Y
B9 U
TO OPTION BOARD
A10 2V
C10 2Y
B11 2U
A12 ABL
B12 ABL
C12 ABL
PA BOARD ④
A13 ABG IK-R
B13 ABG IK-G
C13 ABG IK-B
A14 ABL IK-R
B14 ABL IK-G
C14 ABL IK-B
A15 IK. SW
B15 CBLKG
C15 IK. DET
A16 BKG-R
B16 BKG-G
C16 BKG-B
⑤ CR BOARD
CG BOARD ⑥
CB BOARD ⑦
A17 RED OUT
B17 RED OUT
C17 RED OUT
CR BOARD ㉛
A19 GREEN OUT
B19 GREEN OUT
C19 GREEN OUT
CG BOARD ㉜
A21 BLUE OUT
B21 BLUE OUT
C21 BLUE OUT
CB BOARD ㉝
A23 R MON. OUT
R
B24 R/R-Y/VID
C24 R/R-Y/VID
A25 G MON. OUT
G
B26 G/Y/Y
C26 G/Y/Y
A27 B MON. OUT
B
B28 B/B-Y/C
C28 B/B-Y/C
VS FIX
A29 VS MON. OUT
R OUT
R IN
G OUT
G IN
B OUT
B IN
TO OPTION BOARD
VS SLOT
B30 VS-SLOT
C30 VS-SLOT
HS FIX
A31 HS MON. OUT
HS SLOT
B32 HS SLOT
C32 HS SLOT
QM BOARD
ABG-R
ABG-G
ABG-B
BLKG
VD (V. PULSE)
HD
CP
FAN
PORT-A
OSD R
OSD G
OSD B
TEST
SCL
SDA
HS
VS
SONG
SCP
A BOARD (3/3)
Ⓐ

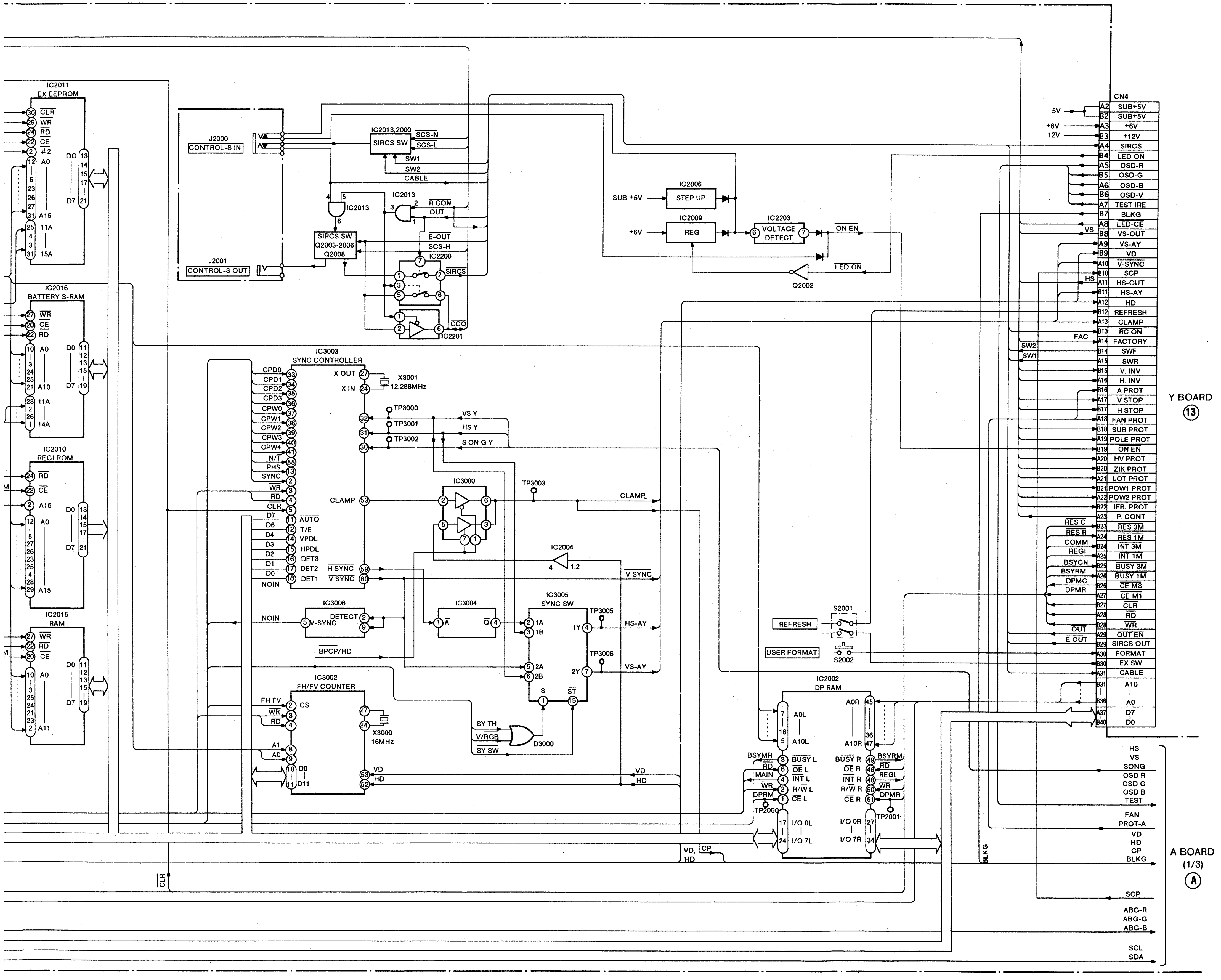
- **A (2/3), AB Board Block Diagrams**


AB
A(2/3)
CN100
S202
10
S201
1
INDEX NO.
INDEX 7
INDEX 6
INDEX 5
INDEX 4
INDEX 3
INDEX 2
INDEX 1
INDEX 0
INDEX
P.TRG
D200
LED DRIVE
Q200
J200
TRIGGER
CN4001
5V
5V-4
IC4001
IC4000
RS-422A IF
RE
DE
A
B
Z
Y
R0
DI
RX
TX
SI
SO
IC4007
COMM. CPU
INDEX0
INDEX7
LOC/REM
RXD0
TXD0
RD
WR
MAIN
BSY MC
DPBSY CLR
RXRDY
XTAL
EXTAL
X4000
16MHz
TXD1
RXD1
DATA ENAB
READ ENAB
BUS REQ
EX
BUSY
WDT
IFB-SDA
IFB-SCL
RES
A0
A15
D0
D7
S4001
TP4001
TP4004
TP4005
IC4002
WD. TIMER
CK
RES
RES C
Q4003,
Q4004
TP4000
TP4002
CLR
TB4001
REMOTE
(RS-422A)
IC4010
RAM
D0
D7
A0
A12
WR
RD
RAM
TP4009
IC4013 (1/2)
IC4012
ADDRESS DECODER
DPCM
Y0
Y1
Y2
Y3
A
B
G2A
G3B
G1
A11
A12
IC4011
COMM. ROM
ROM
A14
TP4010
IC4013 (2/2)
A13
A14
A15
IC4009
BSY MC
Q
CLR
CK
BSYMC
DP BSY CLR
IC4001
TP4007
IC4008
DP RAM
A0R
A10R
A0L
A10L
BUSY R
OE R
INT R
R/WP
CE R
BUSY L
OE L
INT L
R/W L
CE L
I/O 0R
I/O 7R
I/O 0L
I/O 7L
B SY CM
COMM
DRMC
TP4006
IFB-SDA
IFB-SCL
A0-A10
RES C,B SY CM,
RD,COMM,WR
DRMC
A BOARD (3/3)
B
COMM CPU DATA BUS
MAIN CPU DATA BUS

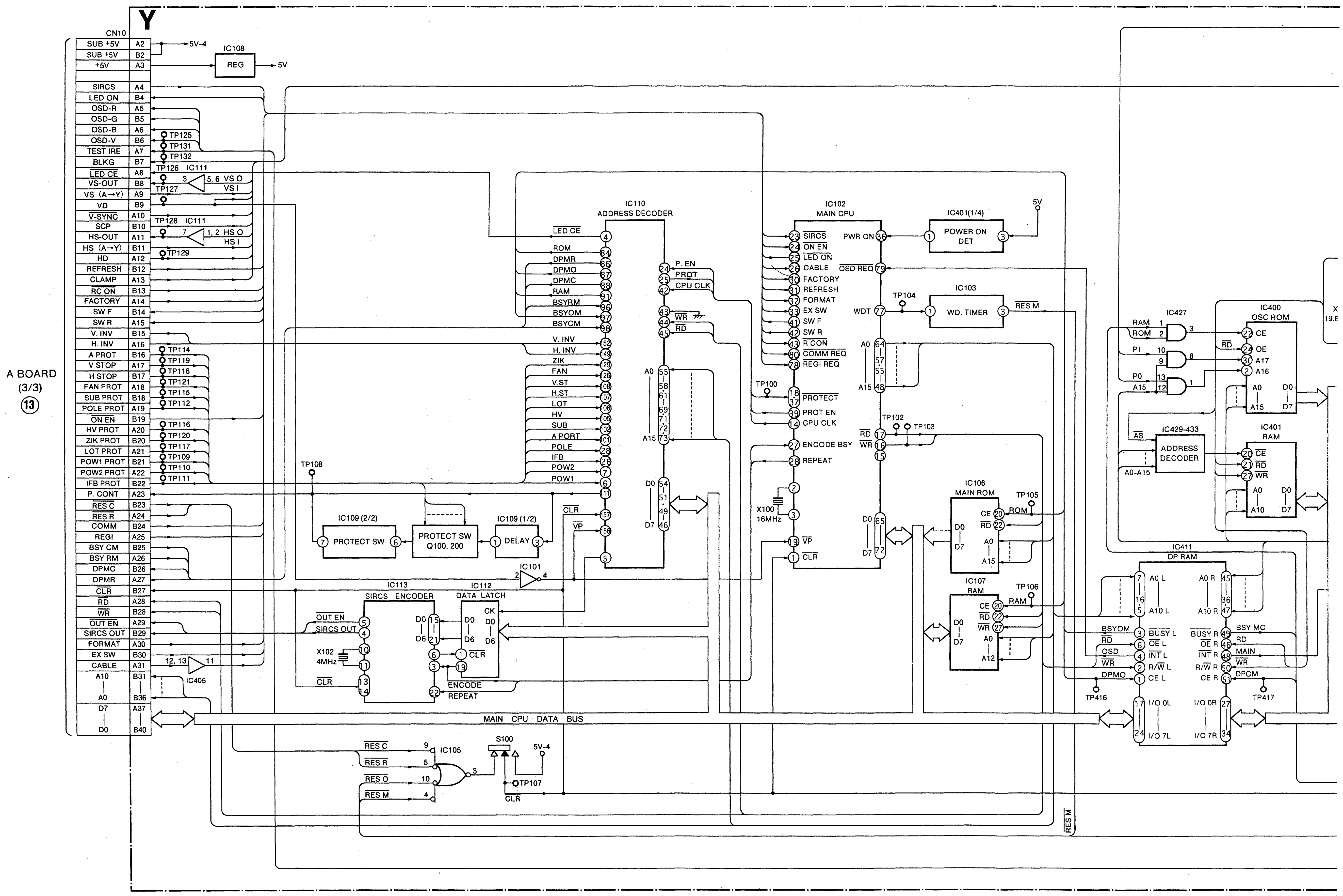
4-6 / 4-8

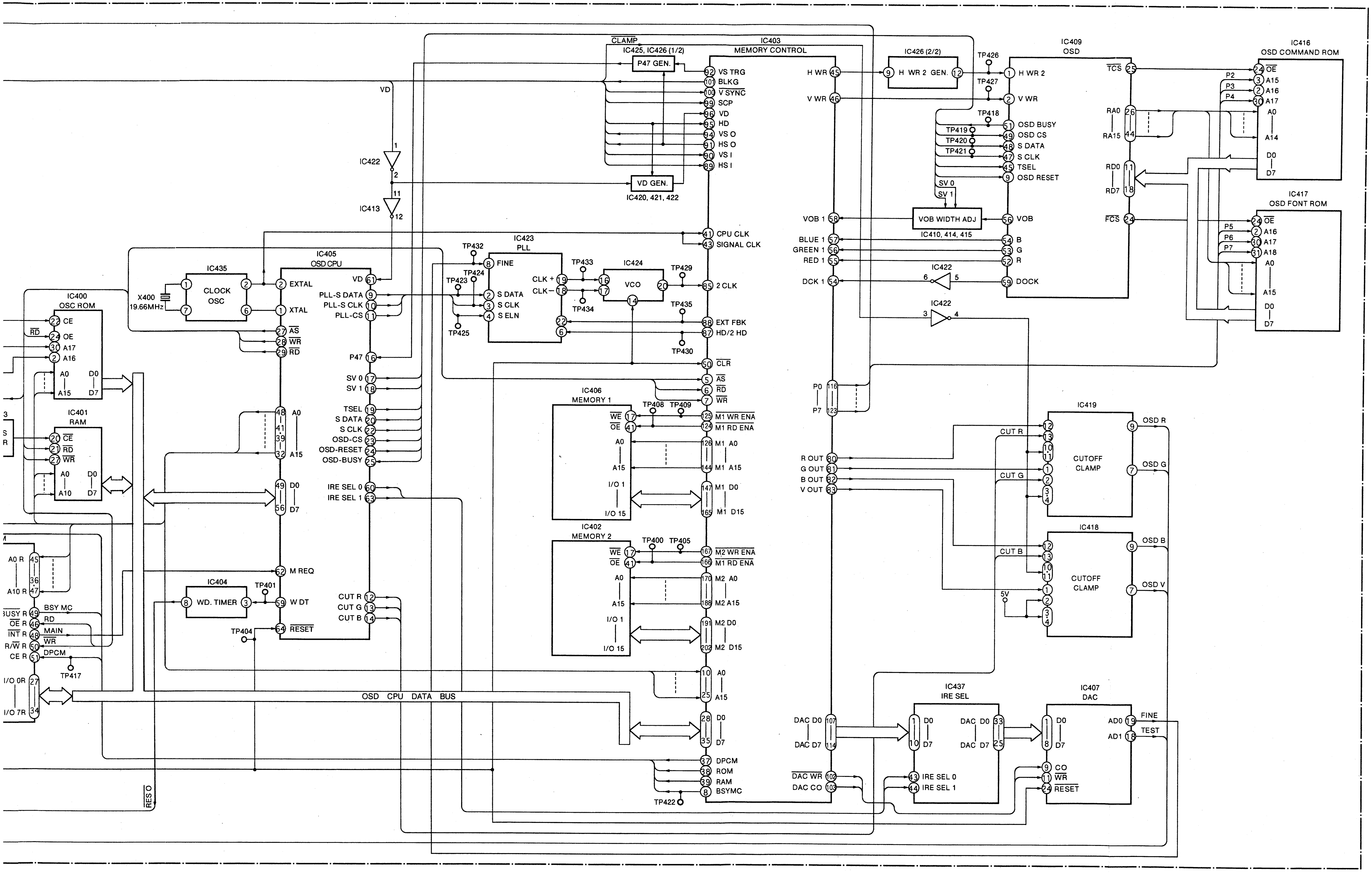
• A (3/3) Board Block Diagram


A(3/3)
M BOARD
⑧
D BOARD
⑨
E BOARD
⑩
⑪
D BOARD
PA BOARD
⑫
QM BOARD
A BOARD (2/3)
Ⓑ
CN1(1/2)
SUB +5V
SB +5V
POWER CONT
-6V
+6V
SIRCS-L
SIRCS-N
SIRCS-CCQ
SIRCS-H
RC- ON
IFB-SCL
IFB-SDA
D0
D7
LED CE
DIP SW
OVER. C
D-SCK
D-SDA
D-LD
SEL-A
SEL-B
SEL-C
SUB. PROT
V. STOP
V. INV
VD
VS
H. STOP
HS
HD
E-VID/RGB
H. INV
G2CONT-B
G2CONT-G
G2CONT-R
HV PROT
ZIK PROT
POLE PROT
LOT PROT
POW1 PROT
POW2 PROT
IFB PROT
BOARD 1
BOARD 2
CODE 1
CODE 2
BOARD/NOT
IN/OUT
SEL
RGB/VIDEO
VIDEO/YC
HDTV SEL
SUB +5V
-6V
+6V
SCS-L
SCS-N
CCQ
SCS-H
RC ON
IC2014
BUFFER
LE
IC2000
FAC
TP2024
TP2023
TP2022
D-CLK
D-SDA
D-LD
V/RGB
G2-B
G2-G
G2-R
Q2200
IFB-SDA
IFB-SCL
RES C,B SY CM,
RD,COMM,WR
DRMC
A0-A10
MAIN CPU DATA BUS
TP2007
IIC-SCL
IIC-SDA
TP2008
IC2003
DAC
D.ABG-R
D.ABG-G
D.ABG-B
ABG ON
DAC0
DAC1
DAC2
SW0
SCL
SDA
IC2202
G2 CONT SW
G2 R
G2 G
G2 B
ABG-R
ABG-G
ABG-B
9,10,11
IC2000
Q2000
Q2001
+5V
X2000
16MHz
IC2005
REGI CPU
RGB/VIDEO
VIDEO/YC
BOARD 1
CODE 1
CODE 2
SEL
IN/OUT
BOARD/NOT
BOARD 2
HDTV SEL
SEL A
SEL B
SEL C
XTAL
EXTAL
II SCL
II SDA
ABG IK R
ABG IK G
ABG IK B
VP
WDT
CLR
MAIN REQ
MAIN
RD
WR
DAC ON/OFF
A0
A15
D0
D7
TP2003
R-WDT
IC2001
WD. TIMER
CK
RES
TP2002
S2000
TABLE FORMAT
+5V
SER
EX WR
IC2007
IC2012
2D
2PR
2CK
1CK
1Q
IC2017
EX0
EX1
A
B
Y0
Y1
Y2
Y3
#0
#1
#2
#3
IC2020
IC2018
IC2008
WR
EEPROM
IC2019
REGI ADDRESS DECODER
CLR
DAC
WR
RD
TP2010
TP2011
A0
A15
D0
D7
VP
OVER. C
D-LD
D-DATA
D-CLK
SER
EX WR
EX0
EX1
ROM
DPRM
EEPROM
RAM
FH FV
SYNC
BSYMR
11A
15A
CPD0
CPD1
CPD2
CPD3
PHS
BPCP/HD
NT/T
CPW0
CPW1
CPW2
CPW3
CPW4
SY TH
SY SW
V/ RGB
NO IN
IC2011
EX EEPROM
CLR
WR
RD
CE
#2
A0
A15
11A
15A
D0
D7
IC2016
BATTERY S-RAM
WR
CE
RD
A0
A10
11A
14A
IC2010
REGI ROM
TP2013
ROM
RD
CE
A16
A0
A15
IC2015
RAM
TP2015
RAM
WR
RD
CE
A0
A11
REGI CPU DATA BUS
CLR
RES R

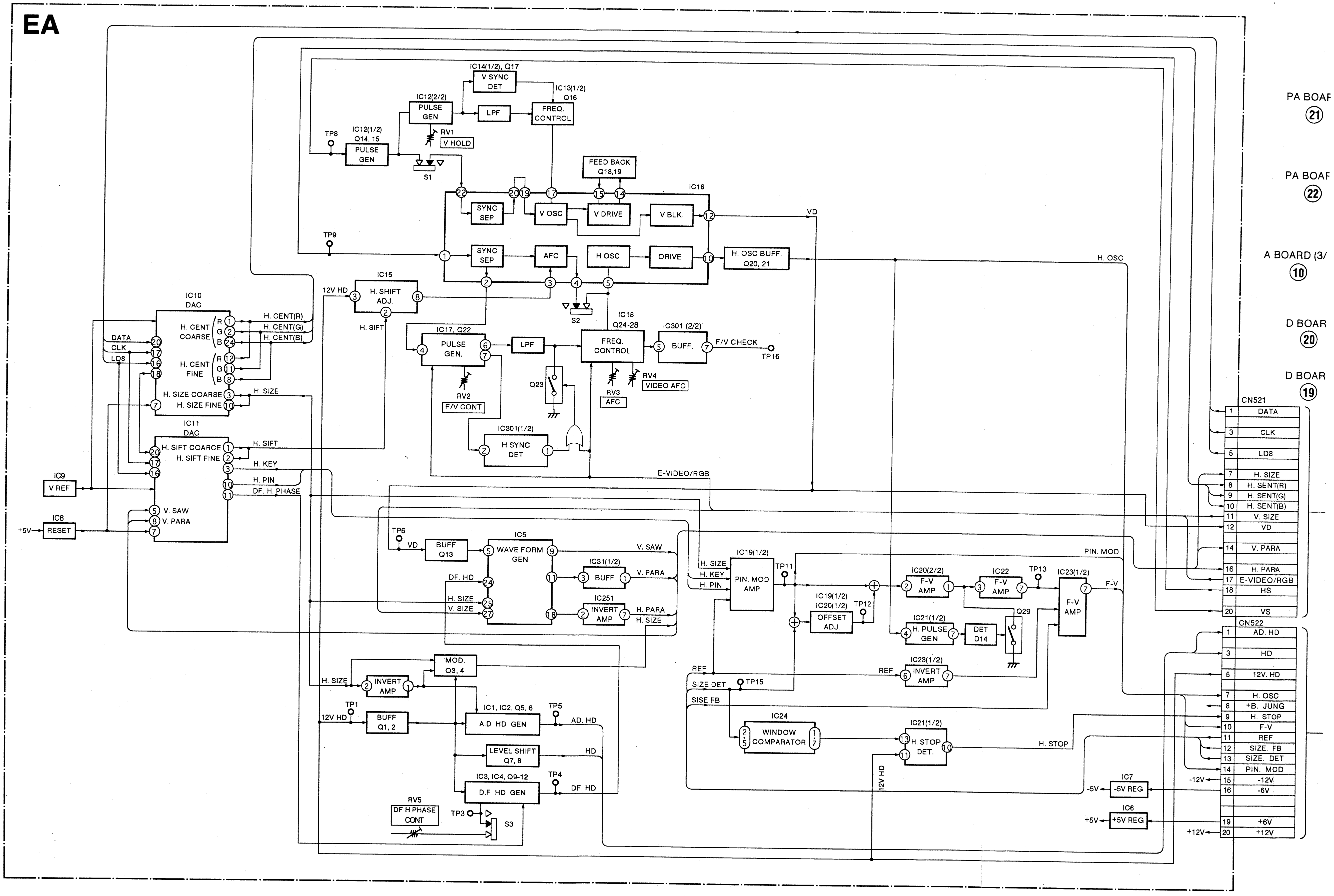

IC2011
EX EEPROM
CLR
WR
RD
CE
#2
A0
A15
11A
15A
D0
D7
IC2016
BATTERY S-RAM
WR
CE
RD
A0
A10
11A
14A
D0
D7
IC2010
REGI ROM
RD
CE
A16
A0
A15
D0
D7
IC2015
RAM
WR
RD
CE
A0
A11
D0
D7
J2000
CONTROL-S IN
J2001
CONTROL-S OUT
IC2013,2000
SIRCS SW
SCS-N
SCS-L
SW1
SW2
CABLE
IC2013
R CON
OUT
SIRCS SW
Q2003-2006
Q2008
E-OUT
SCS-H
IC2200
SIRCS
CCO
IC2201
IC2006
STEP UP
SUB +5V
IC2009
REG
+6V
IC2203
VOLTAGE DETECT
ON EN
LED ON
Q2002
IC3003
SYNC CONTROLLER
CPD0
CPD1
CPD2
CPD3
CPW0
CPW1
CPW2
CPW3
CPW4
N/T
PHS
SYNC
WR
RD
CLR
D7
D6
D4
D3
D2
D1
D0
NOIN
AUTO
T/E
VPDL
HPDL
DET3
DET2
DET1
X OUT
X IN
X3001
12.288MHz
TP3000
TP3001
TP3002
VS Y
HS Y
S ON G Y
CLAMP
H SYNC
V SYNC
IC3000
TP3003
CLAMP
IC2004
V SYNC
IC3006
V-SYNC
DETECT
IC3004
IC3005
SYNC SW
TP3005
TP3006
HS-AY
VS-AY
BPCP/HD
IC3002
FH/FV COUNTER
FH FV
WR
RD
A1
A0
CS
D0
D11
X3000
16MHz
VD
HD
SY TH
V/RGB
SY SW
D3000
S2001
REFRESH
USER FORMAT
S2002
IC2002
DP RAM
A0L
A10L
A0R
A10R
BSYMR
RD
MAIN
WR
DPRM
BUSY L
OE L
INT L
R/W L
CE L
BUSY R
OE R
INT R
R/W R
CE R
BSYRM
RD
REGI
WR
DPMR
TP2000
TP2001
I/O 0L
I/O 7L
I/O 0R
I/O 7R
VD
HD
CP
CLR
BLKG
CN4
5V
+6V
12V
SUB+5V
SUB+5V
+6V
+12V
SIRCS
LED ON
OSD-R
OSD-G
OSD-B
OSD-V
TEST IRE
BLKG
LED-CE
VS-OUT
VS-AY
VD
V-SYNC
SCP
HS-OUT
HS-AY
HD
REFRESH
CLAMP
RC ON
FACTORY
SWF
SWR
V. INV
H. INV
A PROT
V STOP
H STOP
FAN PROT
SUB PROT
POLE PROT
ON EN
HV PROT
ZIK PROT
LOT PROT
POW1 PROT
POW2 PROT
IFB. PROT
P. CONT
RES 3M
RES 1M
INT 3M
INT 1M
BUSY 3M
BUSY 1M
CE M3
CE M1
CLR
RD
WR
OUT EN
SIRCS OUT
FORMAT
EX SW
CABLE
A10
A0
D7
D0
VS
HS
FAC
SW2
SW1
RES C
RES R
COMM
REGI
BSYCN
BSYRM
DPMC
DPMR
OUT
E OUT
Y BOARD
⑬
HS
VS
SONG
OSD R
OSD G
OSD B
TEST
FAN
PROT-A
VD
HD
CP
BLKG
SCP
ABG-R
ABG-G
ABG-B
SCL
SDA
A BOARD
(1/3)
Ⓐ

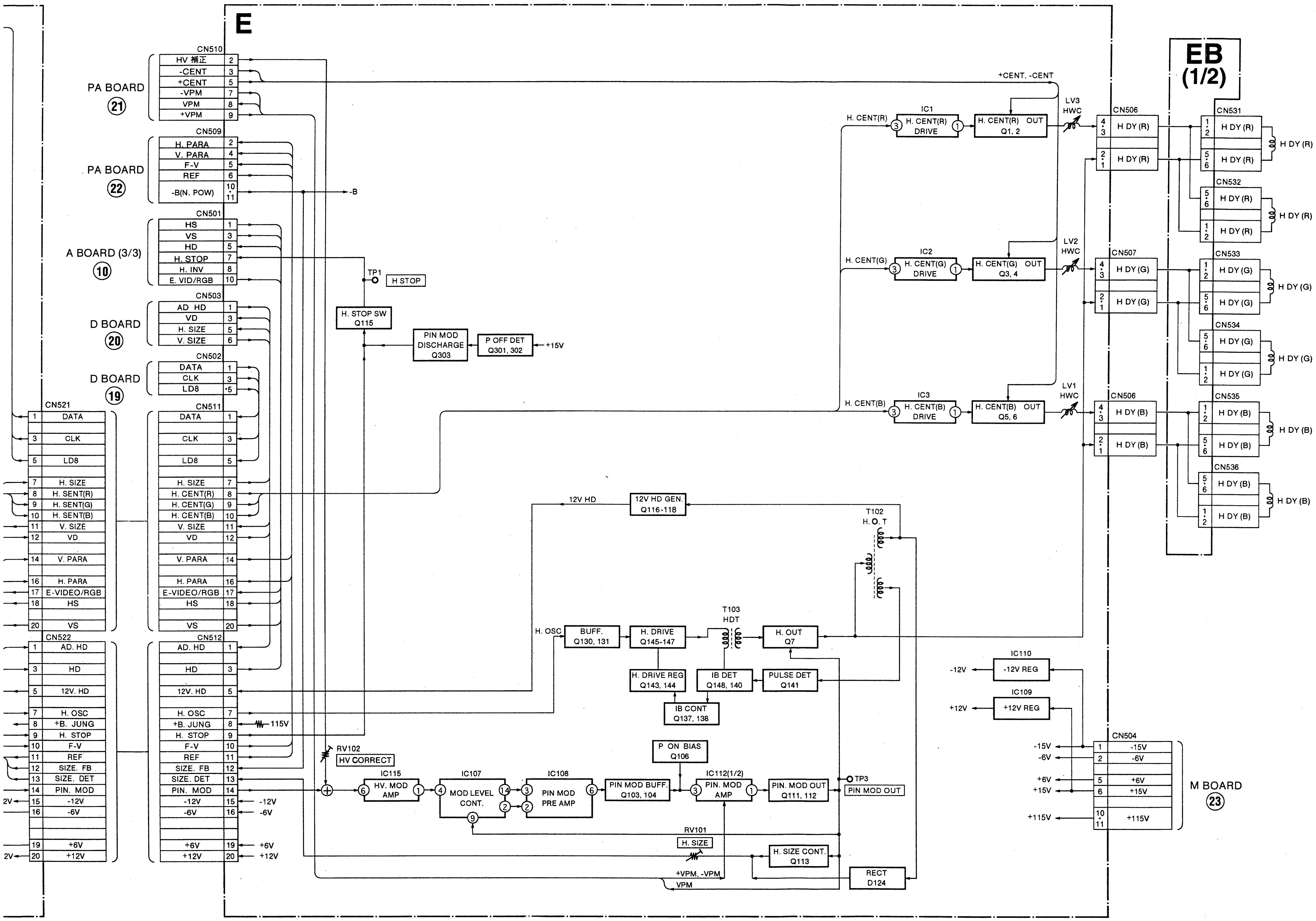
• Y Board Block Diagram


Y
A BOARD
(3/3)
⑬
CN10
SUB +5V A2
SUB +5V B2
+5V A3
SIRCS A4
LED ON B4
OSD-R A5
OSD-G B5
OSD-B A6
OSD-V B6
TEST IRE A7
BLKG B7
LED CE A8
VS-OUT B8
VS (A→Y) A9
VD B9
V-SYNC A10
SCP B10
HS-OUT A11
HS (A→Y) B11
HD A12
REFRESH B12
CLAMP A13
RC ON B13
FACTORY A14
SW F B14
SW R A15
V. INV B15
H. INV A16
A PROT B16
V STOP A17
H STOP B17
FAN PROT A18
SUB PROT B18
POLE PROT A19
ON EN B19
HV PROT A20
ZIK PROT B20
LOT PROT A21
POW1 PROT B21
POW2 PROT A22
IFB PROT B22
P. CONT A23
RES C B23
RES R A24
COMM B24
REGI A25
BSY CM B25
BSY RM A26
DPMC B26
DPMR A27
CLR B27
RD A28
WR B28
OUT EN A29
SIRCS OUT B29
FORMAT A30
EX SW B30
CABLE A31
A10 B31
A0 B36
D7 A37
D0 B40
5V-4
IC108
REG
5V
TP125
TP131
TP132
TP126 IC111
3 5, 6 VS O
VS I
TP127
TP128 IC111
7 1, 2 HS O
HS I
TP129
TP114
TP119
TP118
TP121
TP115
TP112
TP116
TP120
TP117
TP109
TP110
TP111
12, 13 11
IC405
TP108
IC109 (2/2)
PROTECT SW
PROTECT SW
Q100, 200
IC109 (1/2)
DELAY
IC101
IC110
ADDRESS DECODER
LED CE
ROM
DPMR
DPMO
DPMC
RAM
BSYRM
BSYOM
BSYCM
V. INV
H. INV
ZIK
FAN
V.ST
H.ST
LOT
HV
SUB
A PORT
POLE
IFB
POW2
POW1
CLR
VP
P. EN
PROT
CPU CLK
WR
RD
A0
A15
D0
D7
IC113
SIRCS ENCODER
OUT EN
SIRCS OUT
X102
4MHz
CLR
IC112
DATA LATCH
CK
D0
D6
CLR
ENCODE
REPEAT
MAIN CPU DATA BUS
RES C
RES R
RES O
RES M
IC105
S100
5V-4
TP107
CLR
IC102
MAIN CPU
SIRCS
ON EN
LED ON
CABLE
FACTORY
REFRESH
FORMAT
EX SW
SW F
SW R
R CON
COMM REQ
REGI REQ
PROTECT
PROT EN
CPU CLK
ENCODE BSY
REPEAT
X100
16MHz
VP
CLR
PWR ON
OSD REQ
WDT
TP100
TP102
TP103
TP104
IC401(1/4)
POWER ON
DET
5V
IC103
WD. TIMER
RES M
IC106
MAIN ROM
TP105
CE
RD
ROM
IC107
RAM
TP106
WR
A12
IC427
RAM
ROM
P1
P0
A15
IC400
OSC ROM
CE
OE
A17
A16
IC401
RAM
IC429-433
ADDRESS
DECODER
AS
A0-A15
IC411
DP RAM
A0 L
A10 L
A0 R
A10 R
BSYOM
BUSY L
OE L
OSD
INT L
R/W L
DPMO
CE L
TP416
BSY MC
BUSY R
OE R
MAIN
INT R
R/W R
CE R
DPCM
TP417
I/O 0L
I/O 7L
I/O 0R
I/O 7R
X
19.6

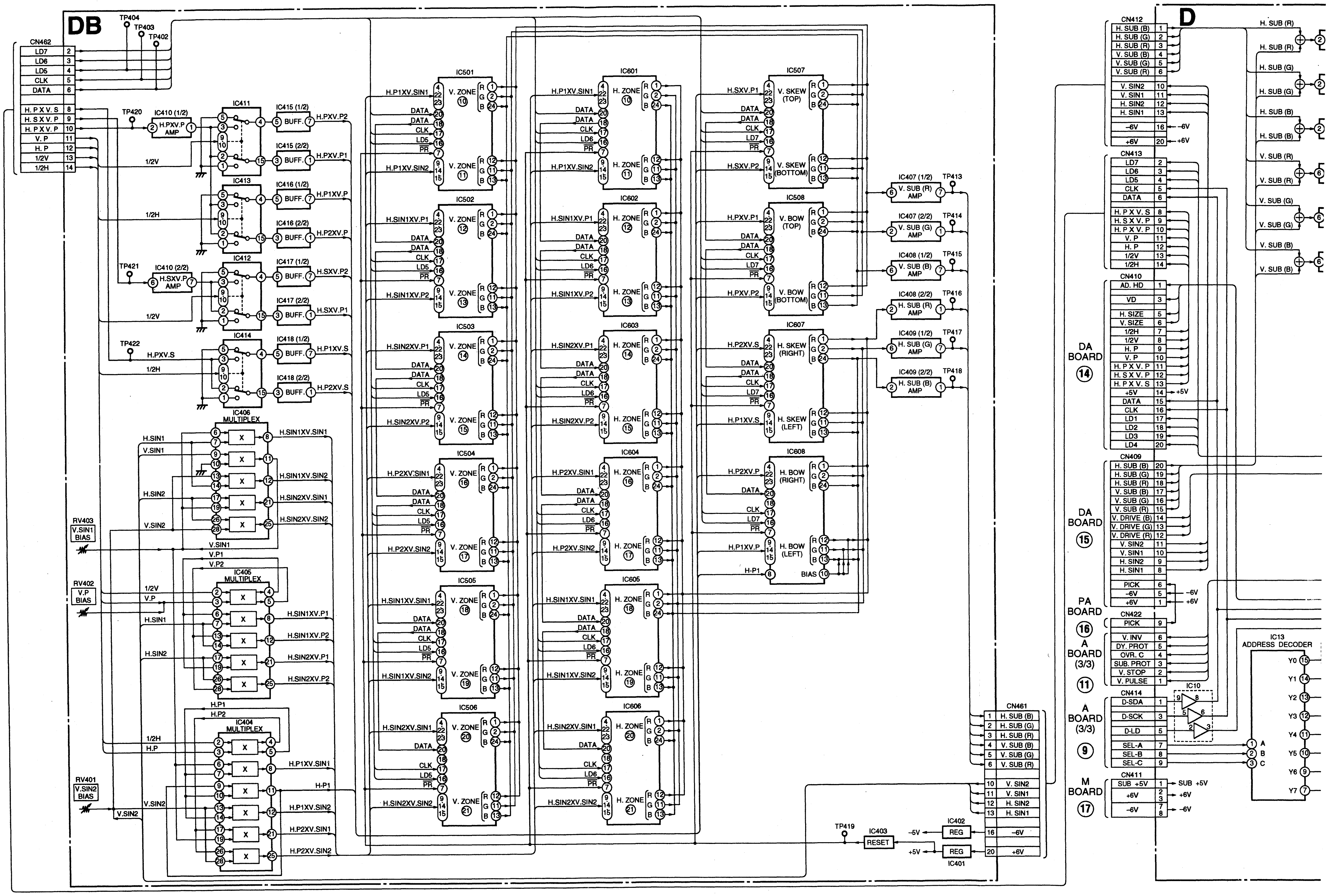

CLAMP
IC425, IC426 (1/2)
P47 GEN.
IC403
MEMORY CONTROL
VS TRG
BLKG
V SYNC
SCP
VD
HD
VS O
HS O
VS I
HS I
VD GEN.
IC420, 421, 422
VD
IC422
IC413
CPU CLK
SIGNAL CLK
IC405
OSD CPU
IC435
CLOCK OSC
X400
19.66MHz
EXTAL
XTAL
AS
WR
RD
PLL-S DATA
PLL-S CLK
PLL-CS
P47
SV 0
SV 1
TSEL
S DATA
S CLK
OSD-CS
OSD-RESET
OSD-BUSY
IRE SEL 0
IRE SEL 1
CUT R
CUT G
CUT B
M REQ
W DT
RESET
IC404
WD. TIMER
TP401
TP404
IC423
PLL
FINE
S DATA
S CLK
S ELN
CLK+
CLK−
TP432
TP423
TP424
TP425
TP433
TP434
IC424
VCO
TP429
TP435
TP430
2 CLK
EXT FBK
HD/2 HD
CLR
IC406
MEMORY 1
TP408
TP409
M1 WR ENA
M1 RD ENA
M1 A0
M1 A15
M1 D0
M1 D15
IC402
MEMORY 2
TP400
TP405
M2 WR ENA
M1 RD ENA
M2 A0
M2 A15
M2 D0
M2 D15
WE
OE
A0
A15
I/O 1
I/O 15
DPCM
ROM
RAM
BSYMC
TP422
OSD CPU DATA BUS
IC400
OSC ROM
CE
OE
A17
A16
A0
A15
D0
D7
IC401
RAM
CE
RD
WR
A10
A0 R
A10 R
BSY MC
BUSY R
OE R
INT R
R/W R
CE R
MAIN
DPCM
TP417
I/O 0R
I/O 7R
RES O
H WR
V WR
VOB 1
BLUE 1
GREEN 1
RED 1
DCK 1
P0
P7
R OUT
G OUT
B OUT
V OUT
DAC D0
DAC D7
DAC WR
DAC CO
IC426 (2/2)
H WR 2 GEN.
TP426
TP427
TP418
TP419
TP420
TP421
IC409
OSD
H WR 2
V WR
OSD BUSY
OSD CS
S DATA
S CLK
TSEL
OSD RESET
VOB WIDTH ADJ
IC410, 414, 415
VOB
B
G
R
DOCK
IC422
TCS
RA0
RA15
RD0
RD7
FCS
IC416
OSD COMMAND ROM
OE
A15
A16
A17
A0
A14
D0
D7
P2
P3
P4
IC417
OSD FONT ROM
OE
A16
A17
A18
A0
A15
D0
D7
P5
P6
P7
IC419
CUTOFF CLAMP
CUT R
CUT G
OSD R
OSD G
IC418
CUTOFF CLAMP
CUT B
5V
OSD B
OSD V
IC437
IRE SEL
D0
D7
DAC D0
DAC D7
IRE SEL 0
IRE SEL 1
IC407
DAC
D0
D7
CO
WR
RESET
AD0
AD1
FINE
TEST

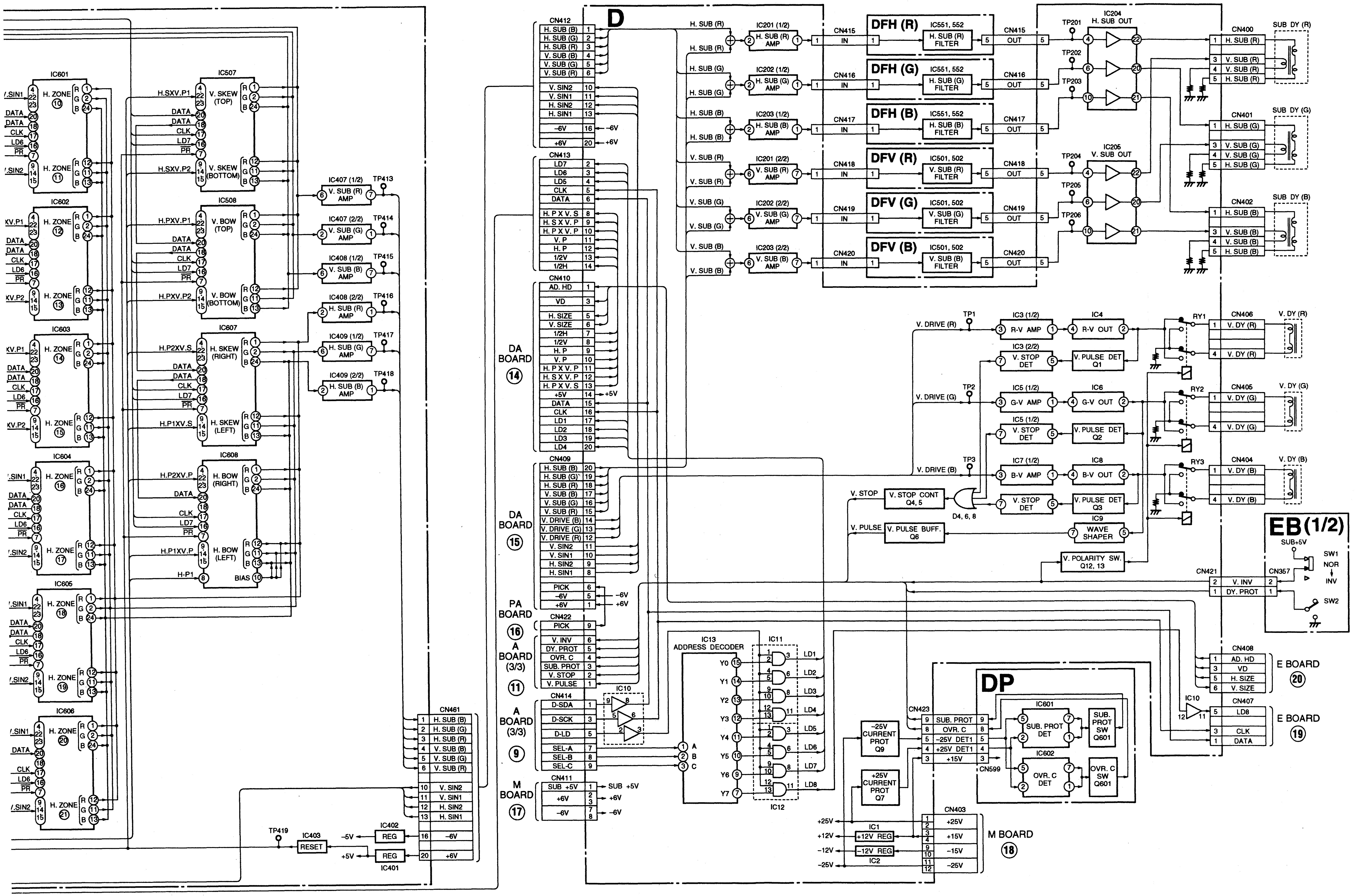
• E, EA and EB Board Block Diagrams


EA
IC14(1/2), Q17
V SYNC DET
IC13(1/2) Q16
FREQ. CONTROL
IC12(2/2)
PULSE GEN
LPF
RV1
V HOLD
TP8
IC12(1/2) Q14, 15
PULSE GEN
S1
FEED BACK Q18,19
IC16
SYNC SEP
V OSC
V DRIVE
V BLK
VD
TP9
SYNC SEP
AFC
H OSC
DRIVE
H. OSC BUFF. Q20, 21
H. OSC
IC15
12V HD
H. SHIFT ADJ.
H. SIFT
S2
IC18 Q24-28
IC301 (2/2)
IC17, Q22
PULSE GEN.
LPF
FREQ. CONTROL
BUFF.
F/V CHECK
TP16
RV2
F/V CONT
Q23
RV3
AFC
RV4
VIDEO AFC
IC301(1/2)
H SYNC DET
E-VIDEO/RGB
IC10 DAC
H. CENT COARSE
H. CENT FINE
H. SIZE COARSE
H. SIZE FINE
H. CENT(R)
H. CENT(G)
H. CENT(B)
H. SIZE
DATA
CLK
LD8
IC11 DAC
H. SIFT COARCE
H. SIFT FINE
H. SIFT
H. KEY
H. PIN
DF. H. PHASE
V. SAW
V. PARA
IC9
V REF
IC8
RESET
+5V
TP6
VD
BUFF Q13
IC5
WAVE FORM GEN
V. SAW
IC31(1/2)
BUFF
V. PARA
IC251
INVERT AMP
H. PARA
H. SIZE
DF. HD
H. SIZE
V. SIZE
IC19(1/2)
H. SIZE
H. KEY
H. PIN
PIN. MOD AMP
TP11
PIN. MOD
IC20(2/2)
F-V AMP
IC22
F-V AMP
TP13
IC23(1/2)
F-V AMP
F-V
IC19(1/2) IC20(1/2)
OFFSET ADJ.
TP12
IC21(1/2)
H. PULSE GEN
DET D14
Q29
REF
IC23(1/2)
INVERT AMP
SIZE DET
TP15
SISE FB
IC24
WINDOW COMPARATOR
IC21(1/2)
H. STOP DET.
H. STOP
12V HD
MOD. Q3, 4
H. SIZE
INVERT AMP
TP1
12V HD
BUFF Q1, 2
IC1, IC2, Q5, 6
A.D HD GEN
TP5
AD. HD
LEVEL SHIFT Q7, 8
HD
IC3, IC4, Q9-12
D.F HD GEN
TP4
DF. HD
RV5
DF H PHASE CONT
TP3
S3
IC7
-5V REG
-5V
IC6
+5V REG
+5V
-12V
+12V
PA BOAF ㉑
PA BOAF ㉒
A BOARD (3/ ⑩
D BOAR ⑳
D BOAR ⑲
CN521
1 DATA
3 CLK
5 LD8
7 H. SIZE
8 H. SENT(R)
9 H. SENT(G)
10 H. SENT(B)
11 V. SIZE
12 VD
14 V. PARA
16 H. PARA
17 E-VIDEO/RGB
18 HS
20 VS
CN522
1 AD. HD
3 HD
5 12V. HD
7 H. OSC
8 +B. JUNG
9 H. STOP
10 F-V
11 REF
12 SIZE. FB
13 SIZE. DET
14 PIN. MOD
15 -12V
16 -6V
19 +6V
20 +12V

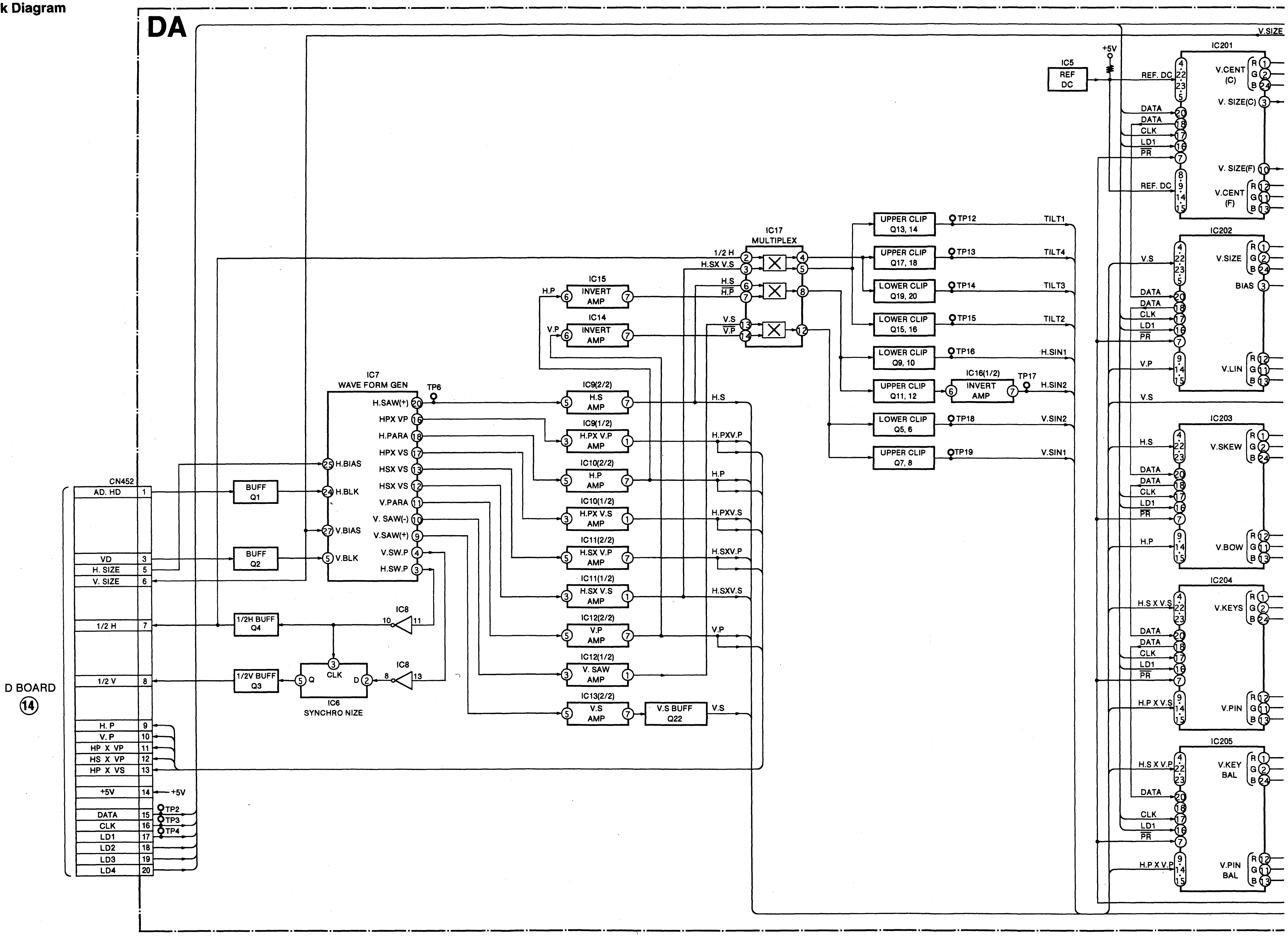

E
EB
(1/2)
PA BOARD
㉑
CN510
HV 補正
-CENT
+CENT
-VPM
VPM
+VPM
PA BOARD
㉒
CN509
H. PARA
V. PARA
F-V
REF
-B(N. POW)
-B
A BOARD (3/3)
⑩
CN501
HS
VS
HD
H. STOP
H. INV
E. VID/RGB
TP1
H STOP
D BOARD
⑳
CN503
AD HD
VD
H. SIZE
V. SIZE
D BOARD
⑲
CN502
DATA
CLK
LD8
CN521
CN511
CN522
CN512
DATA
CLK
LD8
H. SIZE
H. SENT(R)
H. SENT(G)
H. SENT(B)
H. CENT(R)
H. CENT(G)
H. CENT(B)
V. SIZE
VD
V. PARA
H. PARA
E-VIDEO/RGB
HS
VS
AD. HD
HD
12V. HD
H. OSC
+B. JUNG
H. STOP
F-V
REF
SIZE. FB
SIZE. DET
PIN. MOD
-12V
-6V
+6V
+12V
115V
H. STOP SW
Q115
PIN MOD
DISCHARGE
Q303
P OFF DET
Q301, 302
+15V
+CENT, -CENT
H. CENT(R)
IC1
H. CENT(R)
DRIVE
H. CENT(R) OUT
Q1, 2
LV3
HWC
H. CENT(G)
IC2
H. CENT(G)
DRIVE
H. CENT(G) OUT
Q3, 4
LV2
HWC
H. CENT(B)
IC3
H. CENT(B)
DRIVE
H. CENT(B) OUT
Q5, 6
LV1
HWC
CN506
H DY (R)
CN507
H DY (G)
CN506
H DY (B)
CN531
CN532
CN533
CN534
CN535
CN536
H DY (R)
H DY (G)
H DY (B)
12V HD
12V HD GEN.
Q116-118
T102
H. O. T
T103
HDT
H. OSC
BUFF.
Q130, 131
H. DRIVE
Q145-147
H. OUT
Q7
H. DRIVE REG
Q143, 144
IB DET
Q148, 140
PULSE DET
Q141
IB CONT
Q137, 138
IC110
-12V
-12V REG
IC109
+12V
+12V REG
CN504
-15V
-6V
+6V
+15V
+115V
M BOARD
㉓
RV102
HV CORRECT
IC115
HV. MOD
AMP
IC107
MOD LEVEL
CONT.
IC108
PIN MOD
PRE AMP
P ON BIAS
Q106
PIN MOD BUFF.
Q103, 104
IC112(1/2)
PIN. MOD
AMP
PIN. MOD OUT
Q111, 112
TP3
PIN MOD OUT
RV101
H. SIZE
H. SIZE CONT.
Q113
+VPM, -VPM
VPM
RECT
D124

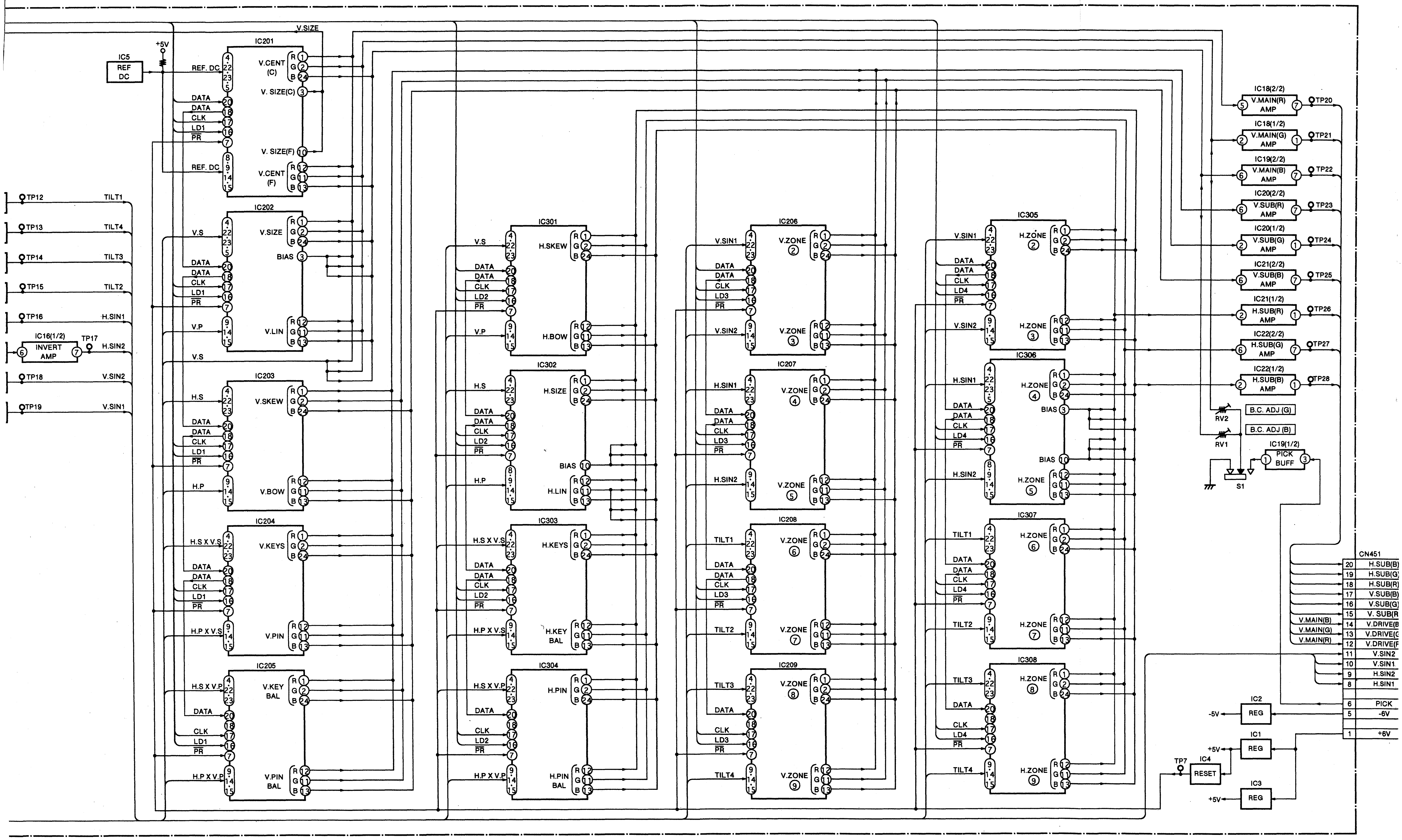
• D, DB and DP Board Block Diagrams

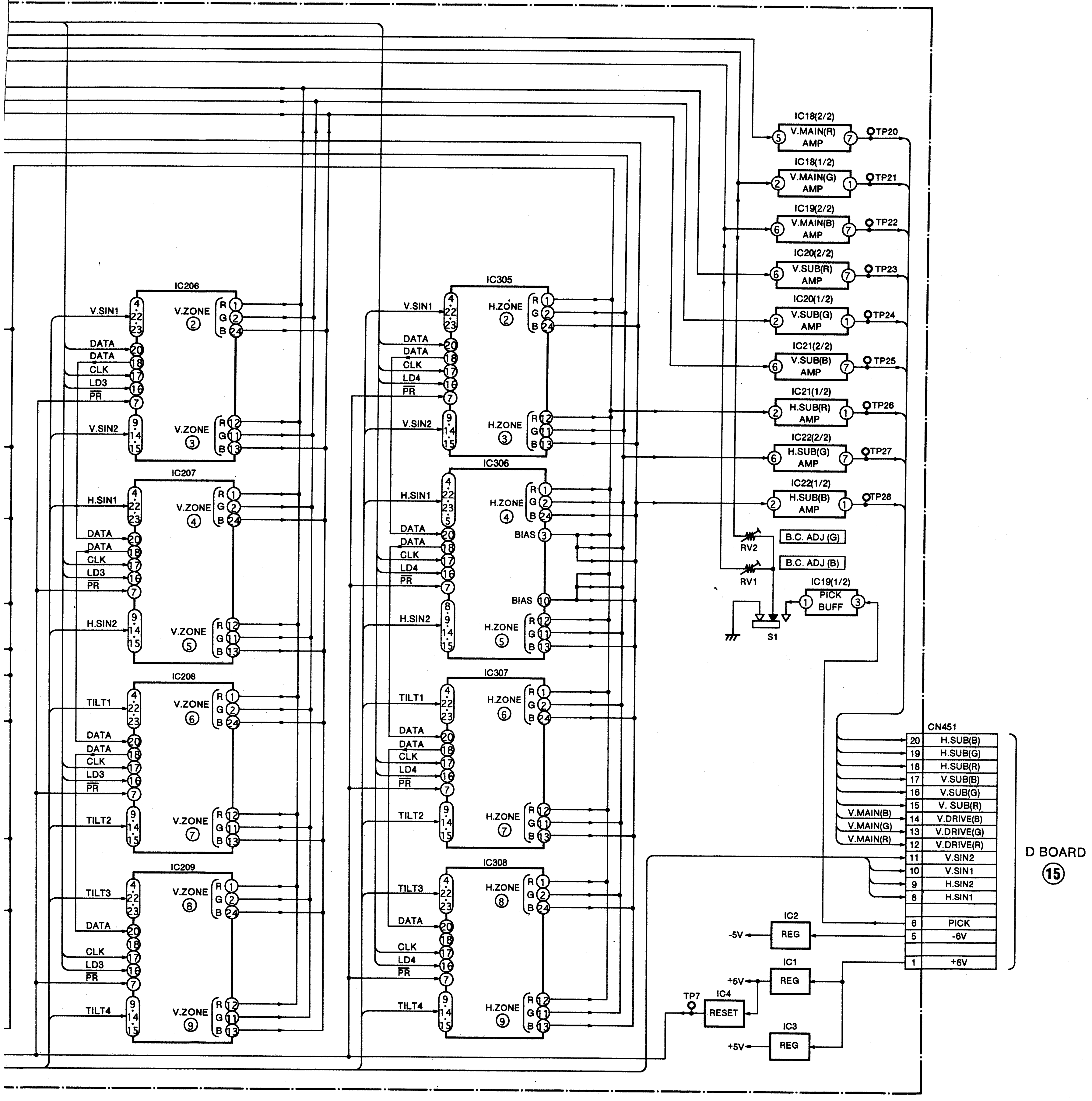

DB
CN462
LD7
LD6
LD5
CLK
DATA
H.PXV.S
H.SXV.P
H.PXV.P
V.P
H.P
1/2V
1/2H
TP404
TP403
TP402
TP420
TP421
TP422
IC410 (1/2) H.PXV.P AMP
IC410 (2/2) H.SXV.P AMP
IC411
IC413
IC412
IC414
IC415 (1/2) BUFF. H.PXV.P2
IC415 (2/2) BUFF. H.PXV.P1
IC416 (1/2) BUFF. H.P1XV.P
IC416 (2/2) BUFF. H.P2XV.P
IC417 (1/2) BUFF. H.SXV.P2
IC417 (2/2) BUFF. H.SXV.P1
IC418 (1/2) BUFF. H.P1XV.S
IC418 (2/2) BUFF. H.P2XV.S
IC406 MULTIPLEX
H.SIN1XV.SIN1
H.SIN1XV.SIN2
H.SIN2XV.SIN1
H.SIN2XV.SIN2
H.SIN1
V.SIN1
H.SIN2
V.SIN2
V.P1
V.P2
IC405 MULTIPLEX
H.SIN1XV.P1
H.SIN1XV.P2
H.SIN2XV.P1
H.SIN2XV.P2
H.P1
H.P2
IC404 MULTIPLEX
H.P1XV.SIN1
H-P1
H.P1XV.SIN2
H.P2XV.SIN1
H.P2XV.SIN2
RV403 V.SIN1 BIAS
RV402 V.P BIAS
RV401 V.SIN2 BIAS
IC501 V. ZONE ⑩ V. ZONE ⑪
IC502 V. ZONE ⑫ V. ZONE ⑬
IC503 V. ZONE ⑭ V. ZONE ⑮
IC504 V. ZONE ⑯ V. ZONE ⑰
IC505 V. ZONE ⑱ V. ZONE ⑲
IC506 V. ZONE ⑳ V. ZONE ㉑
IC601 H. ZONE ⑩ H. ZONE ⑪
IC602 H. ZONE ⑫ H. ZONE ⑬
IC603 H. ZONE ⑭ H. ZONE ⑮
IC604 H. ZONE ⑯ H. ZONE ⑰
IC605 H. ZONE ⑱ H. ZONE ⑲
IC606 H. ZONE ⑳ H. ZONE ㉑
IC507 V. SKEW (TOP) V. SKEW (BOTTOM)
IC508 V. BOW (TOP) V. BOW (BOTTOM)
IC607 H. SKEW (RIGHT) H. SKEW (LEFT)
IC608 H. BOW (RIGHT) H. BOW (LEFT) BIAS
H.SXV.P1
H.SXV.P2
H.PXV.P1
H.PXV.P2
H.P2XV.S
H.P1XV.S
H.P2XV.P
H.P1XV.P
H-P1
DATA
CLK
LD5
LD6
LD7
PR
R G B
IC407 (1/2) V. SUB (R) AMP TP413
IC407 (2/2) V. SUB (G) AMP TP414
IC408 (1/2) V. SUB (B) AMP TP415
IC408 (2/2) H. SUB (R) AMP TP416
IC409 (1/2) H. SUB (G) AMP TP417
IC409 (2/2) H. SUB (B) AMP TP418
CN461
H. SUB (B)
H. SUB (G)
H. SUB (R)
V. SUB (B)
V. SUB (G)
V. SUB (R)
V. SIN2
V. SIN1
H. SIN2
H. SIN1
-6V
+6V
TP419
IC403 RESET
IC402 REG
IC401 REG
D
CN412
CN413
CN410
AD. HD
VD
H. SIZE
V. SIZE
+5V
LD1
LD2
LD3
LD4
CN409
V. DRIVE (B)
V. DRIVE (G)
V. DRIVE (R)
PICK
CN422
V. INV
DY. PROT
OVR. C
SUB. PROT
V. STOP
V. PULSE
CN414
D-SDA
D-SCK
D-LD
SEL-A
SEL-B
SEL-C
CN411
SUB +5V
IC10
IC13 ADDRESS DECODER
Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7
A B C
DA BOARD ⑭
DA BOARD ⑮
PA BOARD ⑯
A BOARD (3/3) ⑪
A BOARD (3/3) ⑨
M BOARD ⑰
H. SUB (R)
H. SUB (G)
H. SUB (B)
V. SUB (R)
V. SUB (G)
V. SUB (B)


D
DP
EB(1/2)
IC601 H. ZONE ⑩ H. ZONE ⑪
IC602 H. ZONE ⑫ H. ZONE ⑬
IC603 H. ZONE ⑭ H. ZONE ⑮
IC604 H. ZONE ⑯ H. ZONE ⑰
IC605 H. ZONE ⑱ H. ZONE ⑲
IC606 H. ZONE ⑳ H. ZONE ㉑
IC507 V. SKEW (TOP) V. SKEW (BOTTOM)
IC508 V. BOW (TOP) V. BOW (BOTTOM)
IC607 H. SKEW (RIGHT) H. SKEW (LEFT)
IC608 H. BOW (RIGHT) H. BOW (LEFT)
H.SXV.P1 H.SXV.P2 H.PXV.P1 H.PXV.P2 H.P2XV.S H.P1XV.S H.P2XV.P H.P1XV.P H-P1 BIAS
DATA CLK LD7 LD6 PR
IC407 (1/2) V. SUB (R) AMP TP413
IC407 (2/2) V. SUB (G) AMP TP414
IC408 (1/2) V. SUB (B) AMP TP415
IC408 (2/2) H. SUB (R) AMP TP416
IC409 (1/2) H. SUB (G) AMP TP417
IC409 (2/2) H. SUB (B) AMP TP418
CN461 H. SUB (B) H. SUB (G) H. SUB (R) V. SUB (B) V. SUB (G) V. SUB (R) V. SIN2 V. SIN1 H. SIN2 H. SIN1 −6V +6V
TP419 IC403 RESET IC402 REG −5V IC401 REG +5V
CN412 H. SUB (B) H. SUB (G) H. SUB (R) V. SUB (B) V. SUB (G) V. SUB (R) V. SIN2 V. SIN1 H. SIN2 H. SIN1 −6V +6V
CN413 LD7 LD6 LD5 CLK DATA H. P X V. S H. S X V. P H. P X V. P V. P H. P 1/2V 1/2H
CN410 AD. HD VD H. SIZE V. SIZE 1/2H 1/2V H. P V. P H. P X V. P H. S X V. P H. P X V. S +5V DATA CLK LD1 LD2 LD3 LD4
CN409 H. SUB (B) H. SUB (G) H. SUB (R) V. SUB (B) V. SUB (G) V. SUB (R) V. DRIVE (B) V. DRIVE (G) V. DRIVE (R) V. SIN2 V. SIN1 H. SIN2 H. SIN1 PICK −6V +6V
DA BOARD ⑭
DA BOARD ⑮
PA BOARD ⑯
CN422 PICK
A BOARD (3/3) ⑪
V. INV DY. PROT OVR. C SUB. PROT V. STOP V. PULSE
CN414 D-SDA D-SCK D-LD SEL-A SEL-B SEL-C
A BOARD (3/3) ⑨
IC10
CN411 SUB +5V +6V −6V
M BOARD ⑰
IC13 ADDRESS DECODER Y0 Y1 Y2 Y3 Y4 Y5 Y6 Y7 A B C
IC11 IC12 LD1 LD2 LD3 LD4 LD5 LD6 LD7 LD8
H. SUB (R) H. SUB (G) H. SUB (B) V. SUB (R) V. SUB (G) V. SUB (B)
IC201 (1/2) H. SUB (R) AMP
IC202 (1/2) H. SUB (G) AMP
IC203 (1/2) H. SUB (B) AMP
IC201 (2/2) V. SUB (R) AMP
IC202 (2/2) V. SUB (G) AMP
IC203 (2/2) V. SUB (B) AMP
CN415 IN CN416 IN CN417 IN CN418 IN CN419 IN CN420 IN
DFH (R) IC551, 552 H. SUB (R) FILTER
DFH (G) IC551, 552 H. SUB (G) FILTER
DFH (B) IC551, 552 H. SUB (B) FILTER
DFV (R) IC501, 502 V. SUB (R) FILTER
DFV (G) IC501, 502 V. SUB (G) FILTER
DFV (B) IC501, 502 V. SUB (B) FILTER
CN415 OUT CN416 OUT CN417 OUT CN418 OUT CN419 OUT CN420 OUT
IC204 H. SUB OUT TP201 TP202 TP203
IC205 V. SUB OUT TP204 TP205 TP206
CN400 H. SUB (R) V. SUB (R) V. SUB (R) H. SUB (R) SUB DY (R)
CN401 H. SUB (G) V. SUB (G) V. SUB (G) H. SUB (G) SUB DY (G)
CN402 H. SUB (B) V. SUB (B) V. SUB (B) H. SUB (B) SUB DY (B)
V. DRIVE (R) TP1 IC3 (1/2) R-V AMP IC4 R-V OUT RY1 CN406 V. DY (R)
IC3 (2/2) V. STOP DET V. PULSE DET Q1
V. DRIVE (G) TP2 IC5 (1/2) G-V AMP IC6 G-V OUT RY2 CN405 V. DY (G)
IC5 (1/2) V. STOP DET V. PULSE DET Q2
V. DRIVE (B) TP3 IC7 (1/2) B-V AMP IC8 B-V OUT RY3 CN404 V. DY (B)
V. STOP V. STOP CONT Q4, 5 D4, 6, 8 V. STOP DET V. PULSE DET Q3
V. PULSE V. PULSE BUFF. Q6 IC9 WAVE SHAPER
V. POLARITY SW. Q12, 13
CN421 V. INV DY. PROT CN357 SUB+5V SW1 NOR INV SW2
CN408 AD. HD VD H. SIZE V. SIZE E BOARD ⑳
IC10 CN407 LD8 CLK DATA E BOARD ⑲
CN423 SUB. PROT OVR. C −25V DET1 +25V DET1 +15V CN599
IC601 SUB. PROT DET SUB. PROT SW Q601
IC602 OVR. C DET OVR. C SW Q601
−25V CURRENT PROT Q9
+25V CURRENT PROT Q7
CN403 +25V +15V −15V −25V M BOARD ⑱
IC1 +12V REG −12V REG IC2
+25V +12V −12V −25V

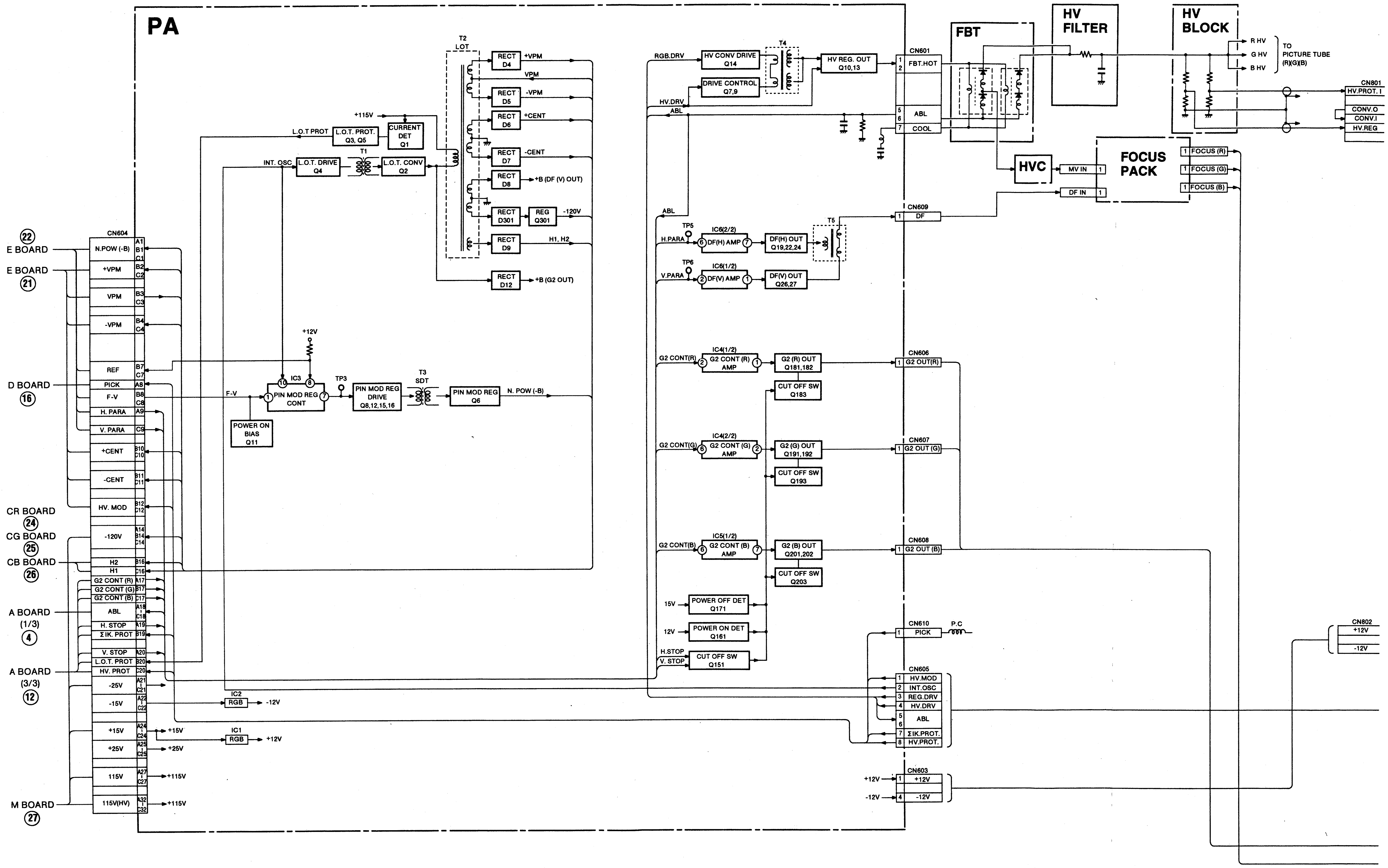
• DA Board Block Diagram

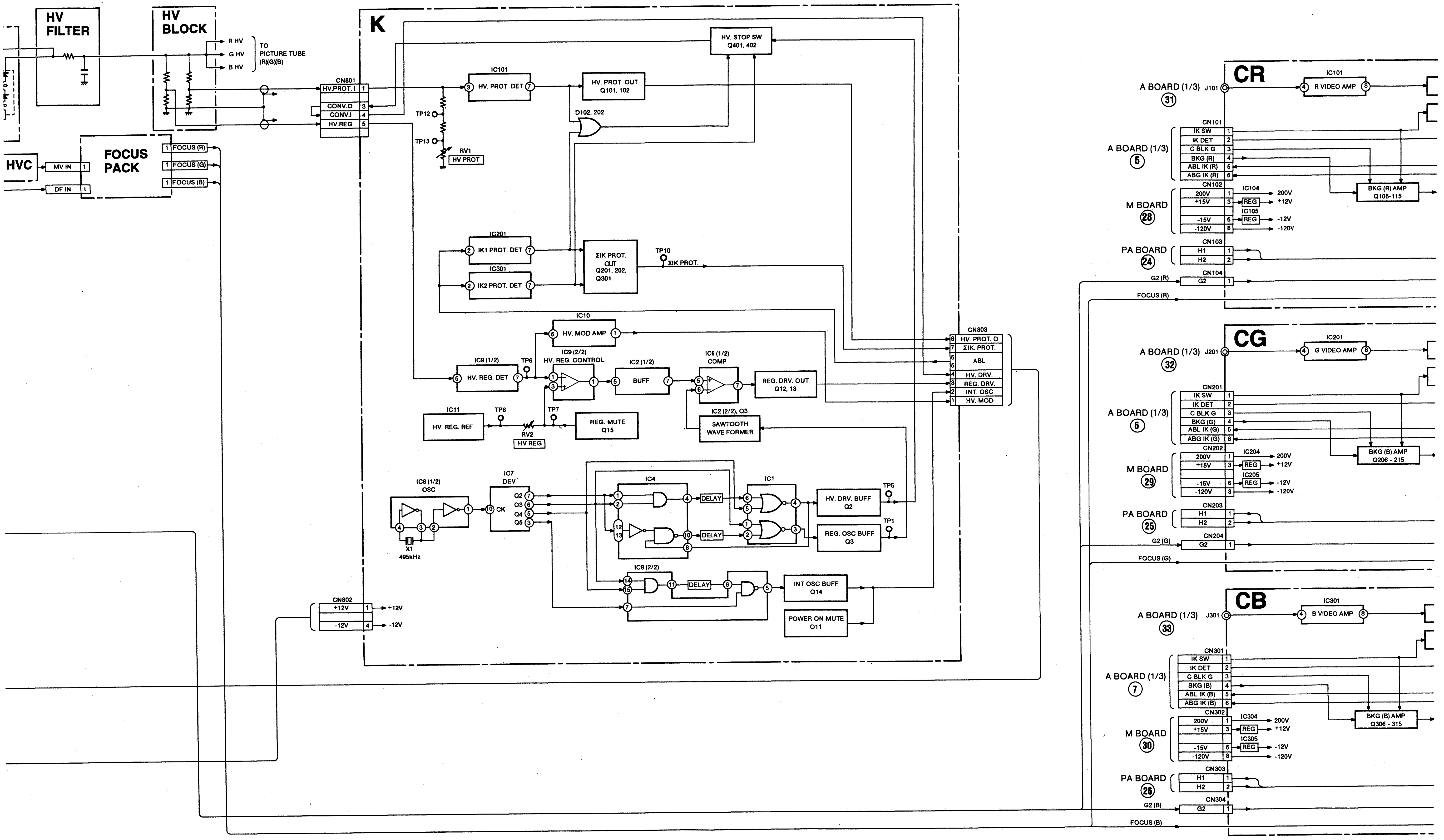

DA
D BOARD
⑭
CN452
AD. HD 1
VD 3
H. SIZE 5
V. SIZE 6
1/2 H 7
1/2 V 8
H. P 9
V. P 10
HP X VP 11
HS X VP 12
HP X VS 13
+5V 14
+5V
DATA 15
CLK 16
LD1 17
LD2 18
LD3 19
LD4 20
TP2
TP3
TP4
BUFF Q1
BUFF Q2
1/2H BUFF Q4
1/2V BUFF Q3
IC8
IC6 SYNCHRO NIZE
CLK
Q
D
IC7 WAVE FORM GEN
H.BIAS
H.BLK
V.BIAS
V.BLK
H.SAW(+)
HPX VP
H.PARA
HPX VS
HSX VS
HSX VS
V.PARA
V. SAW(-)
V.SAW(+)
V.SW.P
H.SW.P
TP6
IC9(2/2) H.S AMP
IC9(1/2) H.PX V.P AMP
IC10(2/2) H.P AMP
IC10(1/2) H.PX V.S AMP
IC11(2/2) H.SX V.P AMP
IC11(1/2) H.SX V.S AMP
IC12(2/2) V.P AMP
IC12(1/2) V. SAW AMP
IC13(2/2) V.S AMP
V.S BUFF Q22
H.S
H.PXV.P
H.P
H.PXV.S
H.SXV.P
H.SXV.S
V.P
V.S
IC15 INVERT AMP
IC14 INVERT AMP
IC17 MULTIPLEX
1/2 H
H.SX V.S
H.S
H.P
V.S
V.P
UPPER CLIP Q13, 14
UPPER CLIP Q17, 18
LOWER CLIP Q19, 20
LOWER CLIP Q15, 16
LOWER CLIP Q9, 10
UPPER CLIP Q11, 12
LOWER CLIP Q5, 6
UPPER CLIP Q7, 8
IC16(1/2) INVERT AMP
TP12
TP13
TP14
TP15
TP16
TP17
TP18
TP19
TILT1
TILT4
TILT3
TILT2
H.SIN1
H.SIN2
V.SIN2
V.SIN1
IC5 REF DC
+5V
REF. DC
DATA
DATA
CLK
LD1
PR
V.SIZE
IC201
V.CENT (C)
V. SIZE(C)
V. SIZE(F)
V.CENT (F)
IC202
V.SIZE
BIAS
V.LIN
IC203
V.SKEW
V.BOW
IC204
V.KEYS
V.PIN
IC205
V.KEY BAL
V.PIN BAL
H.S X V.S
H.P X V.S
H.S X V.P
H.P X V.P
R
G
B

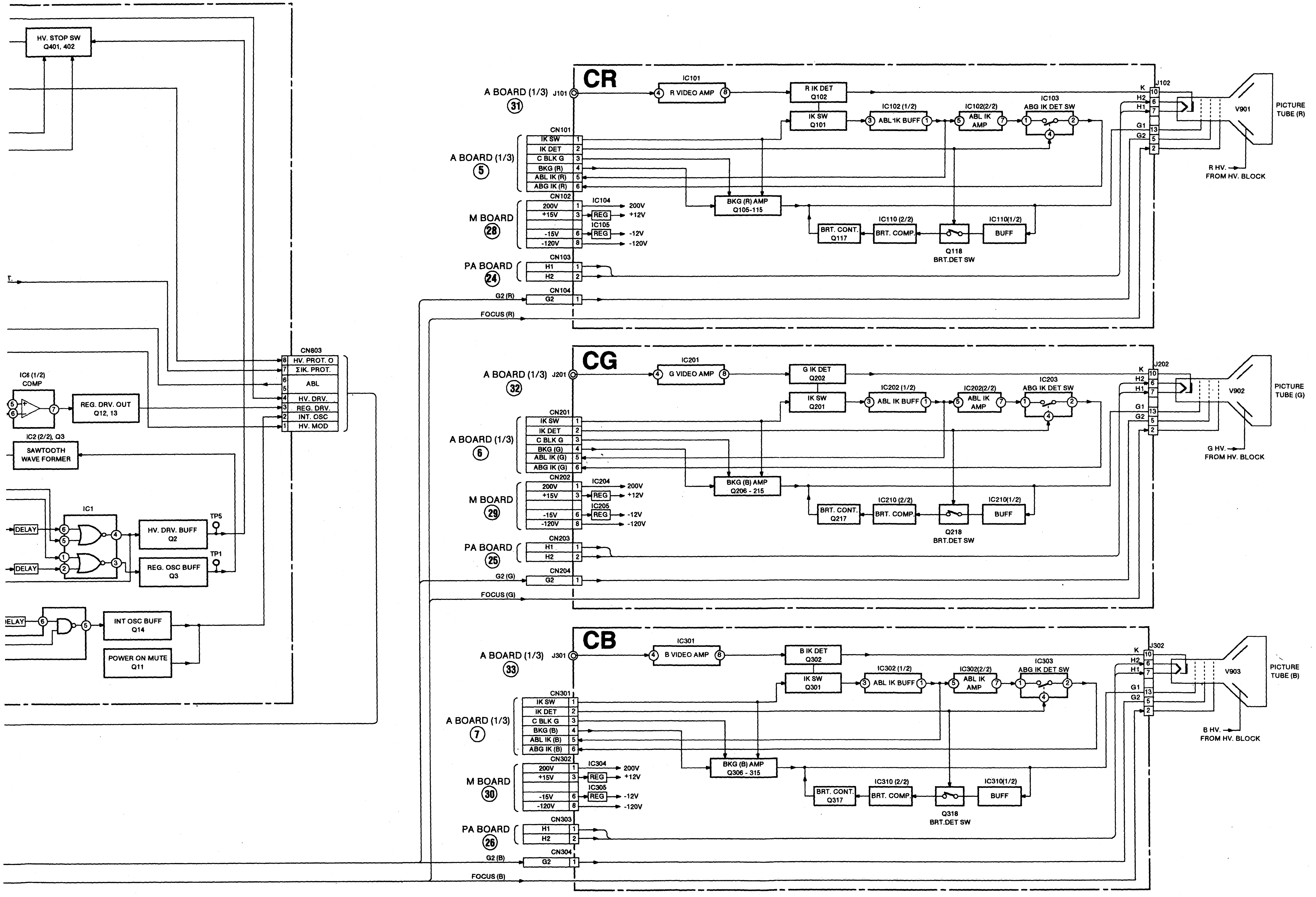

IC5
REF DC
+5V
REF. DC
V.SIZE
IC201
V.CENT (C)
V. SIZE(C)
V. SIZE(F)
V.CENT (F)
DATA
CLK
LD1
PR
IC202
V.SIZE
BIAS
V.LIN
V.S
V.P
IC203
V.SKEW
V.BOW
H.S
H.P
IC204
V.KEYS
V.PIN
H.S X V.S
H.P X V.S
IC205
V.KEY BAL
V.PIN BAL
H.S X V.P
H.P X V.P
TP12 TILT1
TP13 TILT4
TP14 TILT3
TP15 TILT2
TP16 H.SIN1
IC16(1/2) INVERT AMP
TP17 H.SIN2
TP18 V.SIN2
TP19 V.SIN1
IC301
H.SKEW
H.BOW
LD2
IC302
H.SIZE
BIAS
H.LIN
IC303
H.KEYS
H.KEY BAL
IC304
H.PIN
H.PIN BAL
IC206
V.ZONE ②
V.ZONE ③
V.SIN1
V.SIN2
LD3
IC207
V.ZONE ④
V.ZONE ⑤
H.SIN1
H.SIN2
IC208
V.ZONE ⑥
V.ZONE ⑦
TILT1
TILT2
IC209
V.ZONE ⑧
V.ZONE ⑨
TILT3
TILT4
IC305
H.ZONE ②
H.ZONE ③
LD4
IC306
H.ZONE ④
H.ZONE ⑤
BIAS
IC307
H.ZONE ⑥
H.ZONE ⑦
IC308
H.ZONE ⑧
H.ZONE ⑨
IC18(2/2) V.MAIN(R) AMP TP20
IC18(1/2) V.MAIN(G) AMP TP21
IC19(2/2) V.MAIN(B) AMP TP22
IC20(2/2) V.SUB(R) AMP TP23
IC20(1/2) V.SUB(G) AMP TP24
IC21(2/2) V.SUB(B) AMP TP25
IC21(1/2) H.SUB(R) AMP TP26
IC22(2/2) H.SUB(G) AMP TP27
IC22(1/2) H.SUB(B) AMP TP28
RV2 B.C. ADJ (G)
RV1 B.C. ADJ (B)
IC19(1/2) PICK BUFF
S1
CN451
20 H.SUB(B)
19 H.SUB(G)
18 H.SUB(R)
17 V.SUB(B)
16 V.SUB(G)
15 V. SUB(R)
14 V.DRIVE(B)
13 V.DRIVE(G)
12 V.DRIVE(R)
11 V.SIN2
10 V.SIN1
9 H.SIN2
8 H.SIN1
6 PICK
5 -6V
1 +6V
V.MAIN(B)
V.MAIN(G)
V.MAIN(R)
IC2 REG -5V
IC1 REG +5V
IC3 REG +5V
TP7
IC4 RESET


IC206
V.SIN1
V.ZONE ②
DATA
DATA
CLK
LD3
PR
V.SIN2
V.ZONE ③
IC207
H.SIN1
V.ZONE ④
H.SIN2
V.ZONE ⑤
IC208
TILT1
V.ZONE ⑥
TILT2
V.ZONE ⑦
IC209
TILT3
V.ZONE ⑧
TILT4
V.ZONE ⑨
IC305
H.ZONE ②
LD4
H.ZONE ③
IC306
H.ZONE ④
BIAS
H.ZONE ⑤
IC307
H.ZONE ⑥
H.ZONE ⑦
IC308
H.ZONE ⑧
H.ZONE ⑨
IC18(2/2)
V.MAIN(R) AMP
TP20
IC18(1/2)
V.MAIN(G) AMP
TP21
IC19(2/2)
V.MAIN(B) AMP
TP22
IC20(2/2)
V.SUB(R) AMP
TP23
IC20(1/2)
V.SUB(G) AMP
TP24
IC21(2/2)
V.SUB(B) AMP
TP25
IC21(1/2)
H.SUB(R) AMP
TP26
IC22(2/2)
H.SUB(G) AMP
TP27
IC22(1/2)
H.SUB(B) AMP
TP28
B.C. ADJ (G)
RV2
B.C. ADJ (B)
RV1
IC19(1/2)
PICK BUFF
S1
CN451
20 H.SUB(B)
19 H.SUB(G)
18 H.SUB(R)
17 V.SUB(B)
16 V.SUB(G)
15 V. SUB(R)
V.MAIN(B) 14 V.DRIVE(B)
V.MAIN(G) 13 V.DRIVE(G)
V.MAIN(R) 12 V.DRIVE(R)
11 V.SIN2
10 V.SIN1
9 H.SIN2
8 H.SIN1
6 PICK
5 -6V
1 +6V
D BOARD ⑮
IC2
-5V
REG
IC1
+5V
REG
TP7
IC4
RESET
IC3
+5V
REG

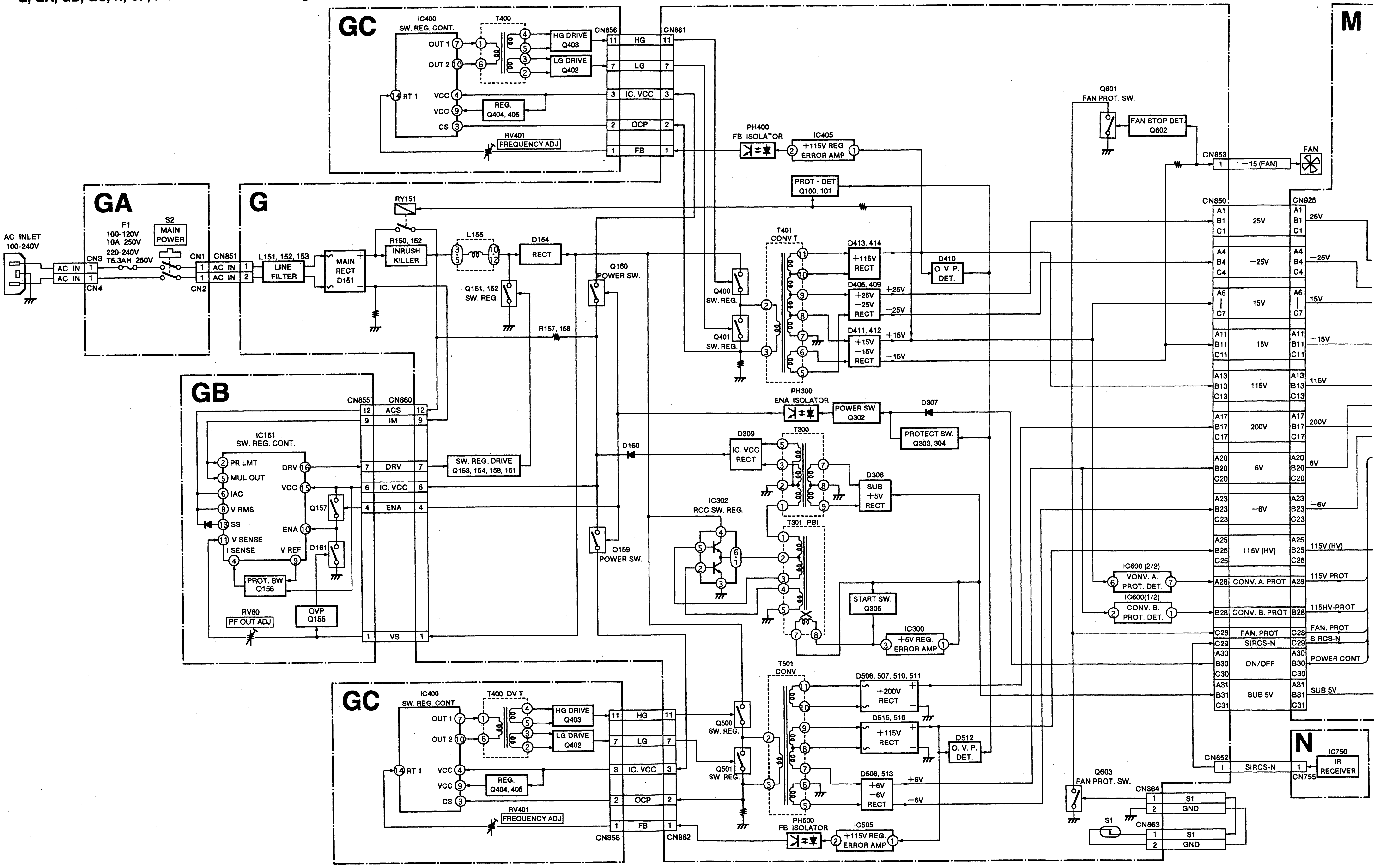
- **PA, K, CR, CG and CB Board Block Diagrams**

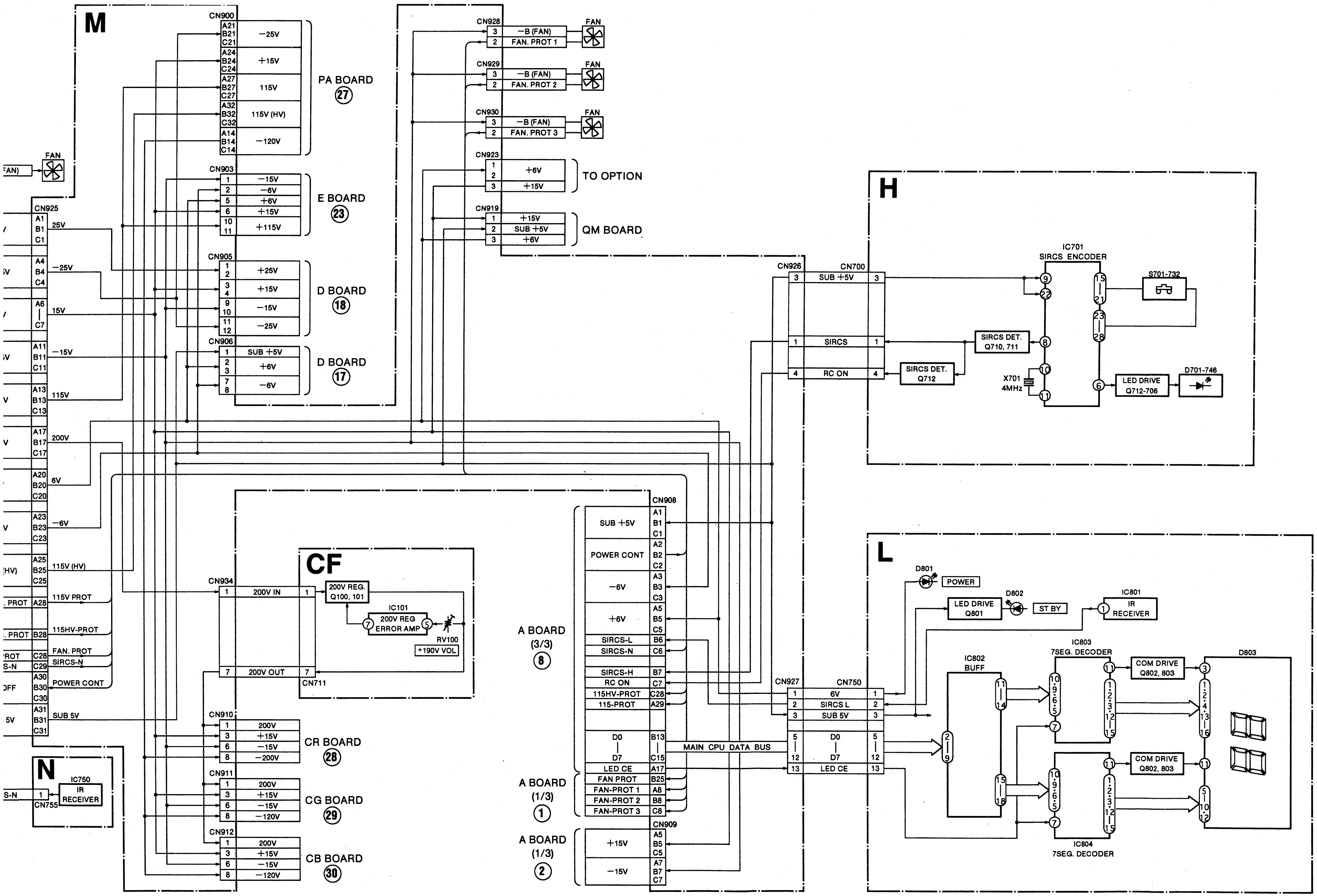

PA
T2
LOT
RECT D4
+VPM
VPM
RECT D5
-VPM
RECT D6
+CENT
RECT D7
-CENT
RECT D8
+B (DF (V) OUT)
RECT D301
REG Q301
-120V
RECT D9
H1, H2
RECT D12
+B (G2 OUT)
+115V
CURRENT DET Q1
L.O.T PROT
L.O.T. PROT. Q3, Q5
INT. OSC
L.O.T. DRIVE Q4
T1
L.O.T. CONV Q2
+12V
IC3
PIN MOD REG CONT
F-V
TP3
PIN MOD REG DRIVE Q8,12,15,16
T3
SDT
PIN MOD REG Q6
N. POW (-B)
POWER ON BIAS Q11
E BOARD ㉒
E BOARD ㉑
D BOARD ⑯
CR BOARD ㉔
CG BOARD ㉕
CB BOARD ㉖
A BOARD (1/3) ④
A BOARD (3/3) ⑫
M BOARD ㉗
CN604
N.POW (-B)
+VPM
VPM
-VPM
REF
PICK
F-V
H. PARA
V. PARA
+CENT
-CENT
HV. MOD
-120V
H2
H1
G2 CONT (R)
G2 CONT (G)
G2 CONT (B)
ABL
H. STOP
ΣIK. PROT
V. STOP
L.O.T. PROT
HV. PROT
-25V
-15V
+15V
+25V
115V
115V(HV)
IC2
RGB
-12V
+15V
IC1
RGB
+12V
+25V
+115V
+115V
RGB.DRV
HV CONV DRIVE Q14
T4
DRIVE CONTROL Q7,9
HV REG. OUT Q10,13
HV.DRV
ABL
CN601
FBT.HOT
ABL
COOL
FBT
HV FILTER
HV BLOCK
R HV
G HV
B HV
TO PICTURE TUBE (R)(G)(B)
CN801
HV.PROT. I
CONV.O
CONV.I
HV.REG
HVC
MV IN
DF IN
FOCUS PACK
FOCUS (R)
FOCUS (G)
FOCUS (B)
ABL
CN609
DF
TP5
H.PARA
IC6(2/2)
DF(H) AMP
DF(H) OUT Q19,22,24
T5
TP6
V.PARA
IC6(1/2)
DF(V) AMP
DF(V) OUT Q26,27
G2 CONT(R)
IC4(1/2)
G2 CONT (R) AMP
G2 (R) OUT Q181,182
CUT OFF SW Q183
CN606
G2 OUT(R)
G2 CONT(G)
IC4(2/2)
G2 CONT (G) AMP
G2 (G) OUT Q191,192
CUT OFF SW Q193
CN607
G2 OUT (G)
G2 CONT(B)
IC5(1/2)
G2 CONT (B) AMP
G2 (B) OUT Q201,202
CUT OFF SW Q203
CN608
G2 OUT (B)
15V
POWER OFF DET Q171
12V
POWER ON DET Q161
H.STOP
V. STOP
CUT OFF SW Q151
CN610
PICK
P.C
CN605
HV.MOD
INT.OSC
REG.DRV
HV.DRV
ABL
ΣIK.PROT.
HV.PROT.
CN603
+12V
-12V
CN802
+12V
-12V


HV FILTER
HV BLOCK
R HV
G HV
B HV
TO PICTURE TUBE (R)(G)(B)
HVC
MV IN 1
DF IN 1
FOCUS PACK
1 FOCUS (R)
1 FOCUS (G)
1 FOCUS (B)
K
CN801
HV.PROT. I 1
CONV.O 3
CONV.I 4
HV.REG 5
HV. STOP SW Q401, 402
IC101
HV. PROT. DET
HV. PROT. OUT Q101, 102
D102, 202
TP12
TP13
RV1 HV PROT
IC201
IK1 PROT. DET
IC301
IK2 PROT. DET
ΣIK PROT. OUT Q201, 202, Q301
TP10
ΣIK PROT.
IC10
HV. MOD AMP
IC9 (1/2)
HV. REG. DET
TP6
IC9 (2/2)
HV. REG. CONTROL
IC2 (1/2)
BUFF
IC6 (1/2)
COMP
REG. DRV. OUT Q12, 13
IC11
HV. REG. REF
TP8
TP7
RV2 HV REG
REG. MUTE Q15
IC2 (2/2), Q3
SAWTOOTH WAVE FORMER
CN803
8 HV. PROT. O
7 ΣIK. PROT.
6 ABL
5
4 HV. DRV.
3 REG. DRV.
2 INT. OSC
1 HV. MOD
IC8 (1/2)
OSC
X1
495kHz
IC7
DEV
CK
Q2
Q3
Q4
Q5
IC4
DELAY
DELAY
IC1
HV. DRV. BUFF Q2
TP5
TP1
REG. OSC BUFF Q3
IC8 (2/2)
DELAY
INT OSC BUFF Q14
POWER ON MUTE Q11
CN802
+12V 1
-12V 4
+12V
-12V
CR
A BOARD (1/3) ㉛ J101
IC101
R VIDEO AMP
A BOARD (1/3) ⑤
CN101
IK SW 1
IK DET 2
C BLK G 3
BKG (R) 4
ABL IK (R) 5
ABG IK (R) 6
BKG (R) AMP Q105-115
M BOARD ㉘
CN102
200V 1
+15V 3
-15V 6
-120V 8
IC104 REG
IC105 REG
200V
+12V
-12V
-120V
PA BOARD ㉔
CN103
H1 1
H2 2
CN104
G2 (R)
G2 1
FOCUS (R)
CG
A BOARD (1/3) ㉜ J201
IC201
G VIDEO AMP
A BOARD (1/3) ⑥
CN201
IK SW 1
IK DET 2
C BLK G 3
BKG (G) 4
ABL IK (G) 5
ABG IK (G) 6
BKG (B) AMP Q206 - 215
M BOARD ㉙
CN202
200V 1
+15V 3
-15V 6
-120V 8
IC204 REG
IC205 REG
200V
+12V
-12V
-120V
PA BOARD ㉕
CN203
H1 1
H2 2
CN204
G2 (G)
G2 1
FOCUS (G)
CB
A BOARD (1/3) ㉝ J301
IC301
B VIDEO AMP
A BOARD (1/3) ⑦
CN301
IK SW 1
IK DET 2
C BLK G 3
BKG (B) 4
ABL IK (B) 5
ABG IK (B) 6
BKG (B) AMP Q306 - 315
M BOARD ㉚
CN302
200V 1
+15V 3
-15V 6
-120V 8
IC304 REG
IC305 REG
200V
+12V
-12V
-120V
PA BOARD ㉖
CN303
H1 1
H2 2
CN304
G2 (B)
G2 1
FOCUS (B)

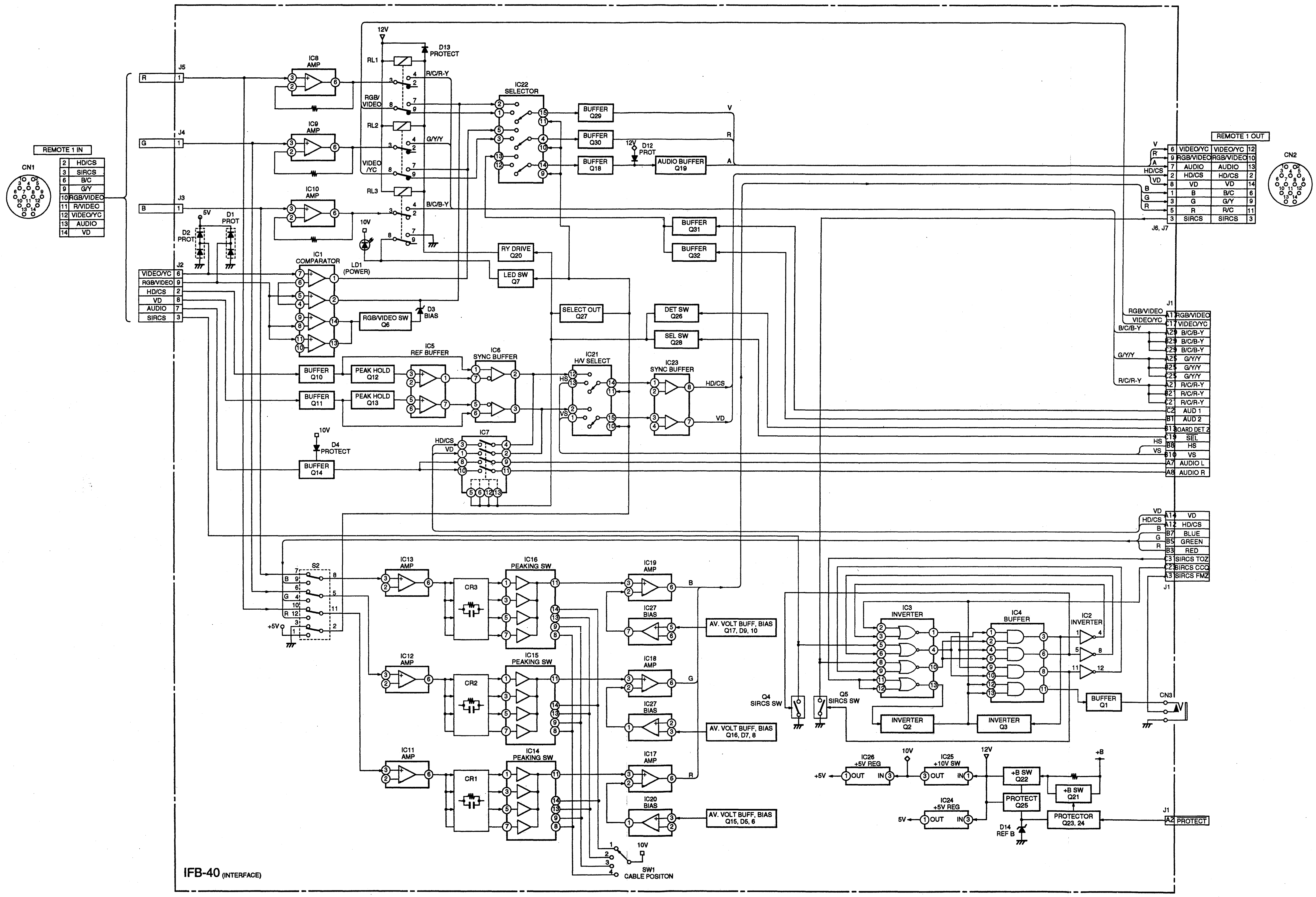

HV. STOP SW
Q401, 402
CN803
HV. PROT. O
ΣIK. PROT.
ABL
HV. DRV.
REG. DRV.
INT. OSC
HV. MOD
IC6 (1/2)
COMP
REG. DRV. OUT
Q12, 13
IC2 (2/2), Q3
SAWTOOTH
WAVE FORMER
IC1
DELAY
HV. DRV. BUFF
Q2
TP5
TP1
REG. OSC BUFF
Q3
INT OSC BUFF
Q14
POWER ON MUTE
Q11
CR
A BOARD (1/3) J101
㉛
IC101
R VIDEO AMP
R IK DET
Q102
IK SW
Q101
IC102 (1/2)
ABL IK BUFF
IC102(2/2)
ABL IK
AMP
IC103
ABG IK DET SW
CN101
IK SW
IK DET
C BLK G
BKG (R)
ABL IK (R)
ABG IK (R)
A BOARD (1/3)
⑤
CN102
200V
+15V
-15V
-120V
M BOARD
㉘
IC104
REG
IC105
200V
+12V
-12V
-120V
BKG (R) AMP
Q105-115
BRT. CONT.
Q117
IC110 (2/2)
BRT. COMP.
Q118
BRT.DET SW
IC110(1/2)
BUFF
CN103
H1
H2
PA BOARD
㉔
CN104
G2 (R)
G2
FOCUS (R)
J102
K
H2
H1
G1
G2
V901
PICTURE
TUBE (R)
R HV.
FROM HV. BLOCK
CG
A BOARD (1/3) J201
㉜
IC201
G VIDEO AMP
G IK DET
Q202
IK SW
Q201
IC202 (1/2)
ABL IK BUFF
IC202(2/2)
ABL IK
AMP
IC203
ABG IK DET SW
CN201
IK SW
IK DET
C BLK G
BKG (G)
ABL IK (G)
ABG IK (G)
A BOARD (1/3)
⑥
CN202
200V
+15V
-15V
-120V
M BOARD
㉙
IC204
REG
IC205
200V
+12V
-12V
-120V
BKG (B) AMP
Q206 - 215
BRT. CONT.
Q217
IC210 (2/2)
BRT. COMP.
Q218
BRT.DET SW
IC210(1/2)
BUFF
CN203
H1
H2
PA BOARD
㉕
CN204
G2 (G)
G2
FOCUS (G)
J202
K
H2
H1
G1
G2
V902
PICTURE
TUBE (G)
G HV.
FROM HV. BLOCK
CB
A BOARD (1/3) J301
㉝
IC301
B VIDEO AMP
B IK DET
Q302
IK SW
Q301
IC302 (1/2)
ABL IK BUFF
IC302(2/2)
ABL IK
AMP
IC303
ABG IK DET SW
CN301
IK SW
IK DET
C BLK G
BKG (B)
ABL IK (B)
ABG IK (B)
A BOARD (1/3)
⑦
CN302
200V
+15V
-15V
-120V
M BOARD
㉚
IC304
REG
IC305
200V
+12V
-12V
-120V
BKG (B) AMP
Q306 - 315
BRT. CONT.
Q317
IC310 (2/2)
BRT. COMP.
Q318
BRT.DET SW
IC310(1/2)
BUFF
CN303
H1
H2
PA BOARD
㉖
CN304
G2 (B)
G2
FOCUS (B)
J302
K
H2
H1
G1
G2
V903
PICTURE
TUBE (B)
B HV.
FROM HV. BLOCK

- **G, GA, GB, GC, N, CF, H and L Board Block Diagrams**

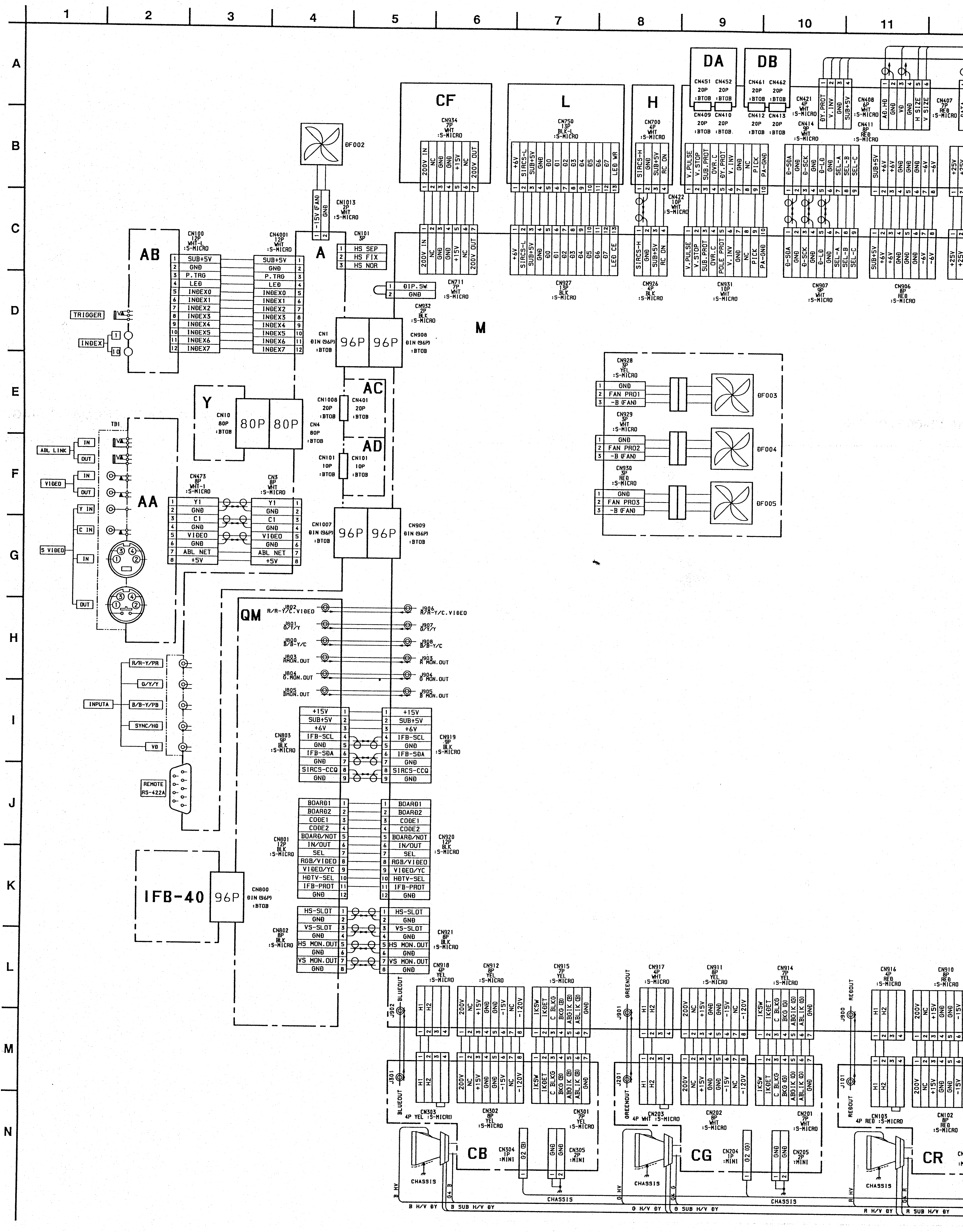

GC
IC400
SW. REG. CONT.
T400
OUT 1
OUT 2
RT 1
VCC
VCC
CS
HG DRIVE
Q403
LG DRIVE
Q402
REG.
Q404, 405
RV401
FREQUENCY ADJ
CN856
CN861
HG
LG
IC. VCC
OCP
FB
M
GA
F1
100-120V
10A 250V
220-240V
T6.3AH 250V
S2
MAIN
POWER
AC INLET
100-240V
AC IN
CN3
CN4
CN1
CN2
CN851
G
L151, 152, 153
LINE
FILTER
MAIN
RECT
D151
RY151
R150, 152
INRUSH
KILLER
L155
D154
RECT
Q151, 152
SW. REG.
R157, 158
Q160
POWER SW.
Q159
POWER SW.
D160
PH400
FB ISOLATOR
IC405
+115V REG
ERROR AMP
PROT · DET
Q100, 101
T401
CONV T
Q400
SW. REG.
Q401
SW. REG.
D413, 414
+115V
RECT
D406, 409
+25V
−25V
RECT
D411, 412
+15V
−15V
RECT
+25V
−25V
+15V
−15V
D410
O. V. P.
DET.
Q601
FAN PROT. SW.
FAN STOP DET.
Q602
CN853
−15 (FAN)
FAN
CN850
CN925
25V
−25V
15V
−15V
115V
200V
6V
−6V
115V (HV)
115V PROT
115HV-PROT
CONV. A. PROT
CONV. B. PROT
FAN. PROT
SIRCS-N
ON/OFF
POWER CONT
SUB 5V
IC600 (2/2)
CONV. A.
PROT. DET.
IC600(1/2)
CONV. B.
PROT. DET.
GB
CN855
CN860
ACS
IM
DRV
IC. VCC
ENA
VS
IC151
SW. REG. CONT.
PR LMT
MUL OUT
IAC
V RMS
SS
V SENSE
I SENSE
V REF
Q157
D161
PROT. SW
Q156
RV60
PF OUT ADJ
OVP
Q155
SW. REG. DRIVE
Q153, 154, 158, 161
PH300
ENA ISOLATOR
POWER SW.
Q302
D307
PROTECT SW.
Q303, 304
D309
IC. VCC
RECT
T300
D306
SUB
+5V
RECT
IC302
RCC SW. REG.
T301 PBI
START SW.
Q305
IC300
+5V REG.
ERROR AMP
T501
CONV
Q500
SW. REG.
Q501
SW. REG.
D506, 507, 510, 511
+200V
RECT
D515, 516
+115V
RECT
D512
O. V. P.
DET.
D508, 513
+6V
−6V
RECT
+6V
−6V
PH500
FB ISOLATOR
IC505
+115V REG.
ERROR AMP
T400 DV T
CN862
N
CN852
CN755
IC750
IR
RECEIVER
Q603
FAN PROT. SW.
CN864
CN863
S1
GND


M
CN900
A21 B21 C21 −25V
A24 B24 C24 +15V
A27 B27 C27 115V
A32 B32 C32 115V (HV)
A14 B14 C14 −120V
PA BOARD ㉗
CN903
1 −15V
2 −6V
5 +6V
6 +15V
10 11 +115V
E BOARD ㉓
CN905
1 2 +25V
3 4 +15V
9 10 −15V
11 12 −25V
D BOARD ⑱
CN906
1 SUB +5V
2 3 +6V
7 8 −6V
D BOARD ⑰
FAN
FAN)
CN925
A1 B1 C1 25V
A4 B4 C4 −25V
A6 | C7 15V
A11 B11 C11 −15V
A13 B13 C13 115V
A17 B17 C17 200V
A20 B20 C20 6V
A23 B23 C23 −6V
A25 B25 C25 115V (HV)
A28 115V PROT
B28 115HV-PROT
C28 FAN. PROT
C29 SIRCS-N
A30 B30 C30 POWER CONT
A31 B31 C31 SUB 5V
. PROT
. PROT
ROT
S-N
OFF
5V
(HV)
CN928
3 −B (FAN)
2 FAN. PROT 1
FAN
CN929
3 −B (FAN)
2 FAN. PROT 2
FAN
CN930
3 −B (FAN)
2 FAN. PROT 3
FAN
CN923
1 2 +6V
3 +15V
TO OPTION
CN919
1 +15V
2 SUB +5V
3 +6V
QM BOARD
H
CN926
CN700
3 SUB +5V 3
1 SIRCS 1
4 RC ON 4
IC701
SIRCS ENCODER
9 22 8 10 11 15 21 23 28 6
S701-732
SIRCS DET. Q710, 711
SIRCS DET. Q712
X701 4MHz
LED DRIVE Q712-706
D701-746
CN908
SUB +5V A1 B1 C1
POWER CONT A2 B2 C2
−6V A3 B3 C3
+6V A5 B5 C5
SIRCS-L B6
SIRCS-N C6
SIRCS-H B7
RC ON C7
115HV-PROT C28
115-PROT A29
D0 | D7 B13 | C15
LED CE A17
A BOARD (3/3) ⑧
FAN PROT B25
FAN-PROT 1 A8
FAN-PROT 2 B8
FAN-PROT 3 C8
A BOARD (1/3) ①
CN909
+15V A5 B5 C5
−15V A7 B7 C7
A BOARD (1/3) ②
MAIN CPU DATA BUS
CF
CN934
1 200V IN 1
7 200V OUT 7
CN711
200V REG. Q100, 101
IC101 200V REG ERROR AMP 7 5
RV100 +190V VOL
CN910
1 200V
3 +15V
6 −15V
8 −200V
CR BOARD ㉘
CN911
1 200V
3 +15V
6 −15V
8 −120V
CG BOARD ㉙
CN912
1 200V
3 +15V
6 −15V
8 −120V
CB BOARD ㉚
N
IC750 IR RECEIVER
S-N 1
CN755
L
D801 POWER
D802 ST BY
LED DRIVE Q801
IC801 IR RECEIVER 1
CN927
CN750
1 6V 1
2 SIRCS L 2
3 SUB 5V 3
5 | 12 D0 | D7 5 | 12
13 LED CE 13
IC802 BUFF 2 | 9 11 | 14 15 | 18
IC803 7SEG. DECODER 10 9 6 5 7 11 1 2 3 12 15
COM DRIVE Q802, 803
IC804 7SEG. DECODER 10 9 6 5 7 11 1 2 3 12 15
COM DRIVE Q802, 803
D803 3 1 2 4 13 16 11 5 10 12

• IFB-40 Board Block Diagram


REMOTE 1 IN
CN1
2 HD/CS
3 SIRCS
6 B/C
9 G/Y
10 RGB/VIDEO
11 R/VIDEO
12 VIDEO/YC
13 AUDIO
14 VD
J5 R
J4 G
J3 B
J2 VIDEO/YC 6, RGB/VIDEO 9, HD/CS 2, VD 8, AUDIO 7, SIRCS 3
5V
D2 PROT
D1 PROT
IC8 AMP
IC9 AMP
IC10 AMP
IC1 COMPARATOR
LD1 (POWER)
10V
12V
RL1
RL2
RL3
D13 PROTECT
R/C/R-Y
G/Y/Y
B/C/B-Y
RGB/VIDEO
VIDEO/YC
D3 BIAS
RGB/VIDEO SW Q6
RY DRIVE Q20
LED SW Q7
IC22 SELECTOR
BUFFER Q29
BUFFER Q30
BUFFER Q18
D12 PROT
AUDIO BUFFER Q19
V
R
A
BUFFER Q31
BUFFER Q32
SELECT OUT Q27
DET SW Q26
SEL SW Q28
IC5 REF BUFFER
IC6 SYNC BUFFER
BUFFER Q10
BUFFER Q11
PEAK HOLD Q12
PEAK HOLD Q13
IC21 H/V SELECT
HS
VS
IC23 SYNC BUFFER
HD/CS
VD
D4 PROTECT
BUFFER Q14
IC7
REMOTE 1 OUT
CN2
6 VIDEO/YC VIDEO/YC 12
9 RGB/VIDEO RGB/VIDEO 10
7 AUDIO AUDIO 13
2 HD/CS HD/CS 2
8 VD VD 14
1 B B/C 6
3 G G/Y 9
5 R R/C 11
3 SIRCS SIRCS 3
J6, J7
J1
A1 RGB/VIDEO
C1 VIDEO/YC
A29 B/C/B-Y
B29 B/C/B-Y
C29 B/C/B-Y
A25 G/Y/Y
B25 G/Y/Y
C25 G/Y/Y
A21 R/C/R-Y
B21 R/C/R-Y
C21 R/C/R-Y
C2 AUD 1
B1 AUD 2
B13 BOARD DET 2
C19 SEL
B8 HS
B10 VS
A7 AUDIO L
A8 AUDIO R
A14 VD
A12 HD/CS
B7 BLUE
B5 GREEN
B3 RED
C3 SIRCS TOZ
C23 SIRCS CCQ
A3 SIRCS FMZ
S2
+5V
IC13 AMP
IC12 AMP
IC11 AMP
CR3
CR2
CR1
IC16 PEAKING SW
IC15 PEAKING SW
IC14 PEAKING SW
IC19 AMP
IC18 AMP
IC17 AMP
IC27 BIAS
IC20 BIAS
AV. VOLT BUFF, BIAS Q17, D9, 10
AV. VOLT BUFF, BIAS Q16, D7, 8
AV. VOLT BUFF, BIAS Q15, D5, 6
B
G
R
SW1 CABLE POSITON
Q4 SIRCS SW
Q5 SIRCS SW
IC3 INVERTER
IC4 BUFFER
IC2 INVERTER
INVERTER Q2
INVERTER Q3
BUFFER Q1
CN3
IC26 +5V REG
IC25 +10V SW
IC24 +5V REG
OUT IN
+B SW Q22
+B SW Q21
PROTECT Q25
PROTECTOR Q23, 24
D14 REF B
+B
A2 PROTECT
IFB-40 (INTERFACE)

4-2. FRAME SCHEMATIC DIAGRAMS



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A
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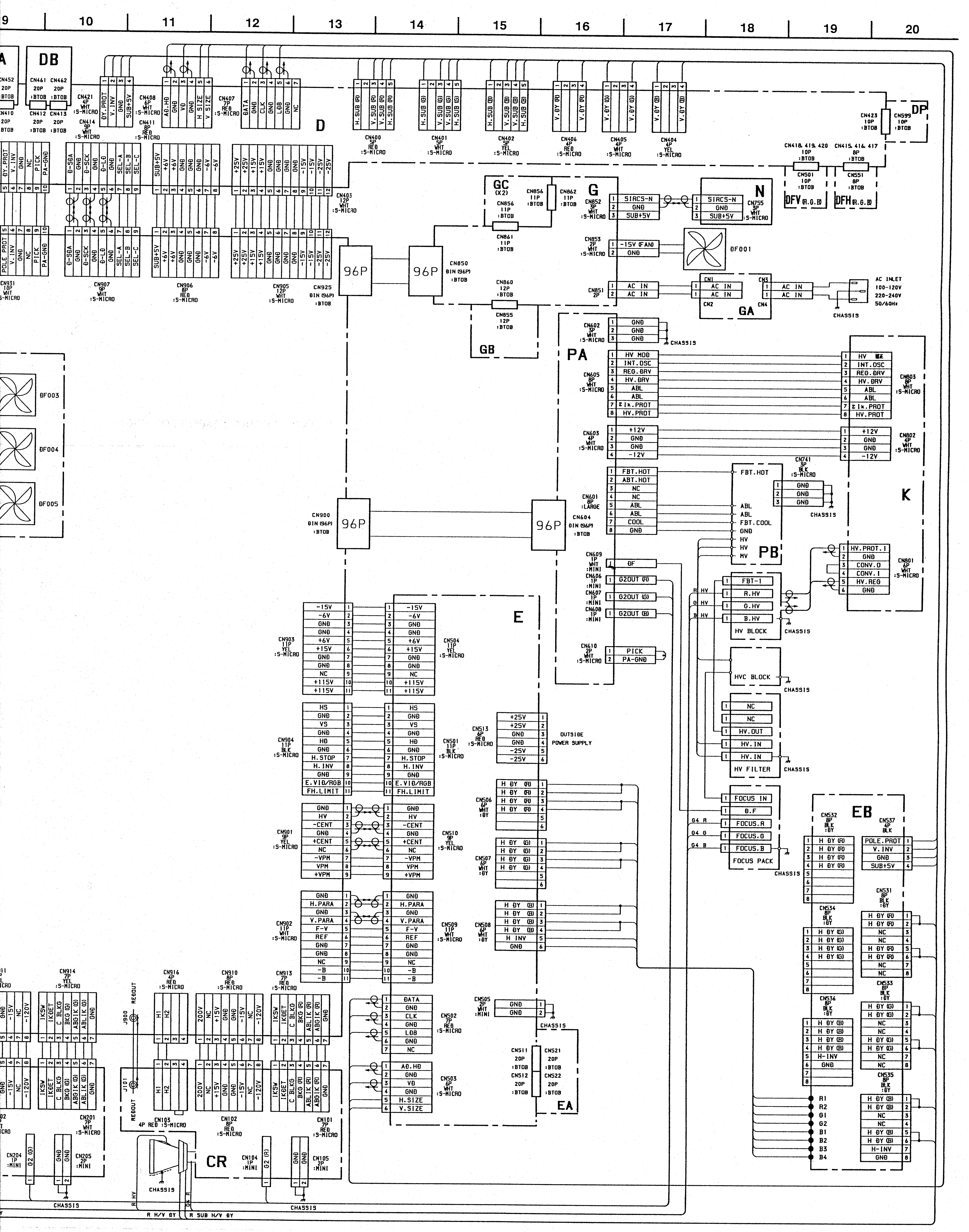
J
K
L
M
N
DA
DB
CF
L
H
AB
A
M
Y
AC
AD
AA
QM
IFB-40
CB
CG
CR
TRIGGER
INDEX
ABL LINK
VIDEO
S VIDEO
INPUTA
REMOTE RS-422A
R/R-Y/PR
G/Y/Y
B/B-Y/PB
SYNC/HD
VD
IN
OUT
Y IN
C IN
TB1
ĐF002
ĐF003
ĐF004
ĐF005
96P
80P
CN1 ĐIN (96P) :BTOB
CN908 ĐIN (96P) :BTOB
CN1007 ĐIN (96P) :BTOB
CN909 ĐIN (96P) :BTOB
CN800 ĐIN (96P) :BTOB
CN10 80P :BTOB
CN4 80P :BTOB
CN1008 20P :BTOB
CN401 20P :BTOB
CN1101 10P :BTOB
CN101 10P :BTOB
CN100 12P WHT-L :S-MICRO
CN4001 12P WHT :S-MICRO
CN1013 2P WHT :S-MICRO
CN101 3P
CN473 8P WHT-1 :S-MICRO
CN3 8P WHT :S-MICRO
CN932 2P BLK :S-MICRO
CN711 7P WHT :S-MICRO
CN934 7P WHT :S-MICRO
CN750 13P BLK-L :S-MICRO
CN927 13P BLK :S-MICRO
CN700 4P WHT :S-MICRO
CN926 4P BLK :S-MICRO
CN422 10P WHT :S-MICRO
CN931 10P WHT :S-MICRO
CN451 20P :BTOB
CN452 20P :BTOB
CN409 20P :BTOB
CN410 20P :BTOB
CN461 20P :BTOB
CN462 20P :BTOB
CN412 20P :BTOB
CN413 20P :BTOB
CN421 4P WHT :S-MICRO
CN414 9P WHT :S-MICRO
CN907 9P WHT :S-MICRO
CN408 6P WHT :S-MICRO
CN411 8P RED :S-MICRO
CN906 8P RED :S-MICRO
CN407 7P RED :S-MICRO
CN928 3P YEL :S-MICRO
CN929 3P WHT :S-MICRO
CN930 3P RED :S-MICRO
CN803 9P BLK :S-MICRO
CN919 9P BLK :S-MICRO
CN801 12P BLK :S-MICRO
CN920 12P BLK :S-MICRO
CN802 8P BLK :S-MICRO
CN921 8P BLK :S-MICRO
CN918 4P YEL :S-MICRO
CN912 8P YEL :S-MICRO
CN915 7P YEL :S-MICRO
CN917 4P WHT :S-MICRO
CN911 8P WHT :S-MICRO
CN914 7P YEL :S-MICRO
CN916 4P RED :S-MICRO
CN910 8P RED :S-MICRO
CN303 4P YEL :S-MICRO
CN302 8P YEL :S-MICRO
CN301 7P YEL :S-MICRO
CN304 1P :MINI
CN305 2P :MINI
CN203 4P WHT :S-MICRO
CN202 8P WHT :S-MICRO
CN201 7P WHT :S-MICRO
CN204 1P :MINI
CN205 2P :MINI
CN103 4P RED :S-MICRO
CN102 8P RED :S-MICRO
SUB+5V
GND
P.TRG
LED
INDEX0
INDEX1
INDEX2
INDEX3
INDEX4
INDEX5
INDEX6
INDEX7
-15V (FAN)
HS SEP
HS FIX
HS NOR
DIP.SW
Y1
C1
VIDEO
ABL NET
+5V
200V IN
NC
+15V
200V OUT
+6V
SIRCS-L
D0
D1
D2
D3
D4
D5
D6
D7
LED WR
LED CE
SIRCS-H
RC ON
V.PULSE
V.STOP
SUB.PROT
OVR.C
DY.PROT
POLE PROT
V.INV
PICK
PA-GND
D-SDA
D-SCK
D-LD
SEL-A
SEL-B
SEL-C
-6V
+25V
AD.HD
VD
H SIZE
V SIZE
FAN PRO1
FAN PRO2
FAN PRO3
-B (FAN)
J802 R/R-Y/C.VIDEO
J801 G/Y/Y
J800 B/B-Y/C
J803 R MON.OUT
J804 G.MON.OUT
J805 B MON.OUT
J906 R/R-Y/C.VIDEO
J907 G/Y/Y
J908 B/B-Y/C
J903 R MON.OUT
J904 G MON.OUT
J905 B MON.OUT
IFB-SCL
IFB-SDA
SIRCS-CCQ
BOARD1
BOARD2
CODE1
CODE2
BOARD/NOT
IN/OUT
SEL
RGB/VIDEO
VIDEO/YC
HDTV-SEL
IFB-PROT
HS-SLOT
VS-SLOT
HS MON.OUT
VS MON.OUT
J302 BLUEOUT
J301 BLUEOUT
J901 GREENOUT
J201 GREENOUT
J900 REDOUT
J101 REDOUT
H1
H2
-120V
IKSW
IKDET
C BLKG
BKG (B)
ABGIK (B)
ABLIK (B)
BKG (G)
ABGIK (G)
ABLIK (G)
G2 (B)
G2 (G)
CHASSIS
B HV
G HV
R HV
G4 B
G4 G
G4 R
B H/V DY
B SUB H/V DY
G H/V DY
G SUB H/V DY
R H/V DY
R SUB H/V DY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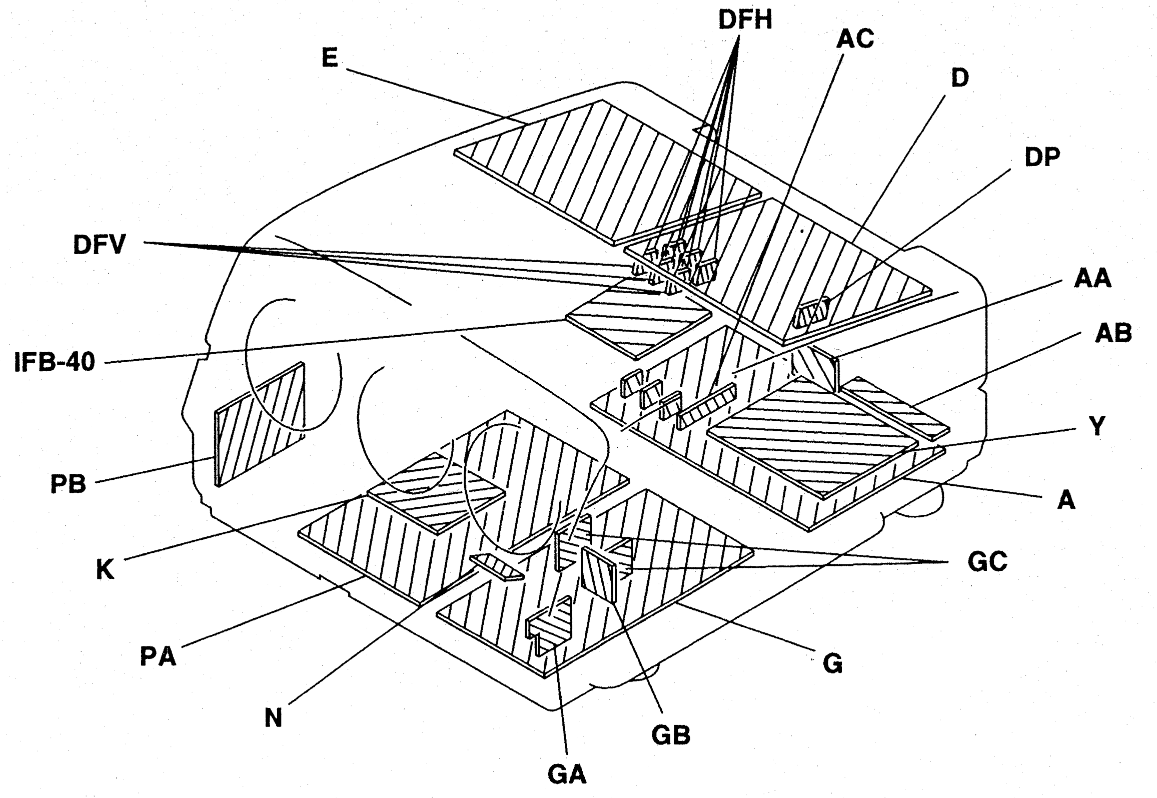
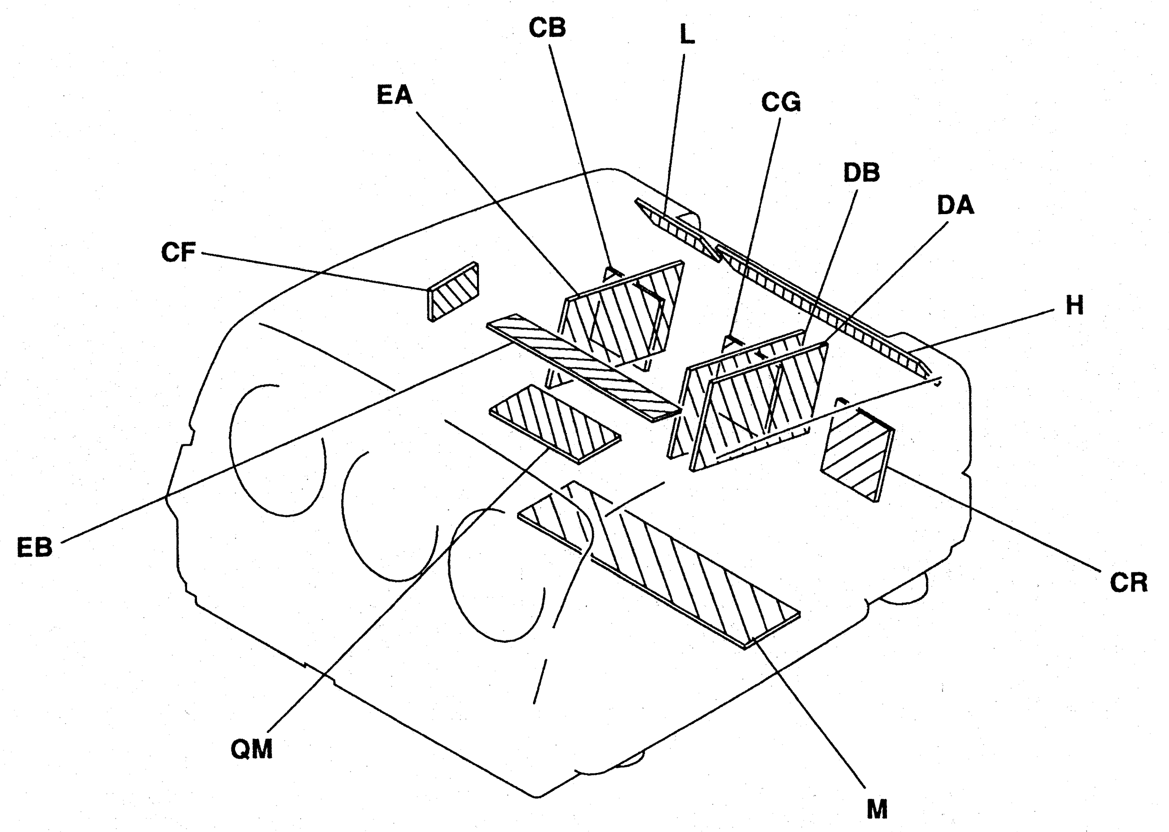
DB
D
G
GC (X2)
GB
N
PA
PB
K
E
EA
EB
GA
CR
DP
DFV R.G.B
DFH R.G.B
CN452 20P :BTOB
CN410 :BTOB
CN461 20P :BTOB
CN462 20P :BTOB
CN412 20P :BTOB
CN413 20P :BTOB
CN421 4P WHT :S-MICRO
ΘY.PROT
V.INV
GND
SUB+5V
CN408 6P WHT :S-MICRO
AΘ.HΘ
VΘ
H SIZE
V SIZE
CN407 7P REΘ :S-MICRO
ΘATA
CLK
LΘB
NC
CN414 9P WHT :S-MICRO
CN411 8P REΘ :S-MICRO
CN931 10P WHT :S-MICRO
POLE PROT
PICK
PA-GND
CN907 9P WHT :S-MICRO
Θ-SΘA
Θ-SCK
Θ-LΘ
SEL-A
SEL-B
SEL-C
CN906 8P REΘ :S-MICRO
+6V
-6V
CN905 12P WHT :S-MICRO
CN925 BIN (96P) :BTOB
CN403 12P WHT :S-MICRO
+25V
+15V
-15V
-25V
CN400 5P REΘ :S-MICRO
H.SUB (R)
V.SUB (R)
CN401 5P WHT :S-MICRO
H.SUB (G)
V.SUB (G)
CN402 5P YEL :S-MICRO
H.SUB (B)
V.SUB (B)
CN406 4P REΘ :S-MICRO
V.ΘY (R)
CN405 4P WHT :S-MICRO
V.ΘY (G)
CN404 4P YEL :S-MICRO
V.ΘY (B)
CN423 10P :BTOB
CN599 10P :BTOB
CN418, 419, 420 10P :BTOB
CN415, 416, 417 8P :BTOB
CN501 10P :BTOB
CN551 8P :BTOB
96P
CN850 BIN (96P) :BTOB
CN856 11P :BTOB
CN862 11P :BTOB
CN861 11P :BTOB
CN860 12P :BTOB
CN855 12P :BTOB
CN852 3P WHT :S-MICRO
SIRCS-N
CN755 3P WHT :S-MICRO
CN853 2P WHT :S-MICRO
-15V (FAN)
ΘF001
CN851 2P
AC IN
CN1
CN2
CN3
CN4
AC INLET
100-120V
220-240V
50/60Hz
CHASSIS
ΘF003
ΘF004
ΘF005
CN602 3P WHT :S-MICRO
CN605 8P WHT :S-MICRO
HV MOD
INT.OSC
REG.ΘRV
HV.ΘRV
ABL
Σ Ik.PROT
HV.PROT
CN803 8P WHT :S-MICRO
CN603 4P WHT :S-MICRO
+12V
-12V
CN802 4P WHT :S-MICRO
CN601 8P :LARGE
FBT.HOT
ABT.HOT
COOL
CN741 3P BLK :S-MICRO
FBT.COOL
HV
CN604 BIN (96P) :BTOB
CN900 BIN (96P) :BTOB
CN609 1P WHT :MINI
ΘF
CN606 1P :MINI
G2OUT (R)
CN607 1P :MINI
G2OUT (G)
CN608 1P :MINI
G2OUT (B)
CN610 2P WHT :S-MICRO
HV.PROT.I
CONV.Θ
CONV.I
HV.REG
CN801 6P WHT :S-MICRO
R HV
G HV
B HV
FBT-1
R.HV
G.HV
B.HV
HV BLOCK
HVC BLOCK
HV.OUT
HV.IN
HV FILTER
FOCUS IN
Θ.F
FOCUS.R
FOCUS.G
FOCUS.B
FOCUS PACK
G4 R
G4 G
G4 B
CN903 11P YEL :S-MICRO
CN504 11P YEL :S-MICRO
+115V
CN904 11P BLK :S-MICRO
CN501 11P BLK :S-MICRO
HS
VS
HΘ
H.STOP
H.INV
E.VIΘ/RGB
FH.LIMIT
CN513 6P REΘ :S-MICRO
OUTSIΘE POWER SUPPLY
CN901 9P YEL :S-MICRO
CN510 9P YEL :S-MICRO
-CENT
+CENT
-VPM
VPM
+VPM
CN506 6P WHT :BY
H ΘY (R)
CN507 6P WHT :BY
H ΘY (G)
CN508 6P WHT :BY
H ΘY (B)
H INV
CN902 11P WHT :S-MICRO
CN509 11P WHT :S-MICRO
H.PARA
V.PARA
F-V
REF
-B
CN505 2P WHT :MINI
CN502 7P REΘ :S-MICRO
CN503 6P WHT :S-MICRO
H.SIZE
V.SIZE
CN511 20P :BTOB
CN512 20P :BTOB
CN521 20P :BTOB
CN522 20P :BTOB
CN532 8P BLK :BY
CN537 4P BLK
CN531 8P BLK :BY
CN534 8P BLK :BY
CN533 8P BLK :BY
CN536 8P BLK :BY
CN535 8P BLK :BY
H-INV
R1
R2
G1
G2
B1
B2
B3
B4
CN914 7P YEL :S-MICRO
IKSW
IKΘET
C BLKG
BKG (G)
ABGIK (G)
ABLIK (G)
CN916 4P REΘ :S-MICRO
H1
H2
CN910 8P REΘ :S-MICRO
200V
+15V
-120V
CN913 7P REΘ :S-MICRO
BKG (R)
ABLIK (R)
ABGIK (R)
J900
J101
REΘOUT
CN201 7P WHT :S-MICRO
CN103 4P REΘ :S-MICRO
CN102 8P REΘ :S-MICRO
CN101 7P REΘ :S-MICRO
CN204 1P :MINI
G2 (G)
CN205 2P :MINI
CN104 1P :MINI
G2 (R)
CN105 2P :MINI
R HV
G R
R H/V ΘY
R SUB H/V ΘY

4-3. CIRCUIT BOARDS LOCATION





4-4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note:

- All capacitors are in µF unless otherwise noted.
  50WV or less are not indicated except for electrolytics. pF: µµF
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm Rating electrical power 1/4W

- All resistors are in ohms.
- Chip resister are 1/10W unless otherwise noted.
- ▭ : nonfiammable resistor.
- ▭ : fusible resistor.
- Δ : internal component.
- ▭ : panel designation and Adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- METAL FILM (: RN) resister in 0.5%, 1/4W unless otherwise specified.
- The components identified by ⧗ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
  Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪, make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ⧗ and repeat the adjustment until the specified value is achieved. (Refer to ⧗ RV1, ⧗ RV2 on page 3-13.)

Part replaced (◪)	Adjustment (⧗)
IC101, D5, D101, D102, C101, R101, R102, R103, R104, R105, R106, R107, R108, R109, R110, R112, R113 .... K board	RV1 (HOLD-DOWN)
IC1, IC2, IC4, IC6, IC7, IC8, IC9, IC11, R54, R55, R56, R57, R63, R64, R65, R72, R73, R74, X1 .... K board	RV2 (HIGH VOLTAGE)

- All voltages are in V.
- Voltage variations may be noted due to normal production tolerance.
- Reading are taken with Composite Video and Component (R.G.B. HD, VD) signal input from color-bar pattern generator.
- Voltage are dc with respect to ground unless otherwise noted.
- no mark : Composite Video signal and comon
  (   ) : Component (R.G.B. HD, VD) signal
- ▭ : B+ line.
- ▭ : B– line.
- ➡ : signal path.
- Circled numbers are waveforms reference.

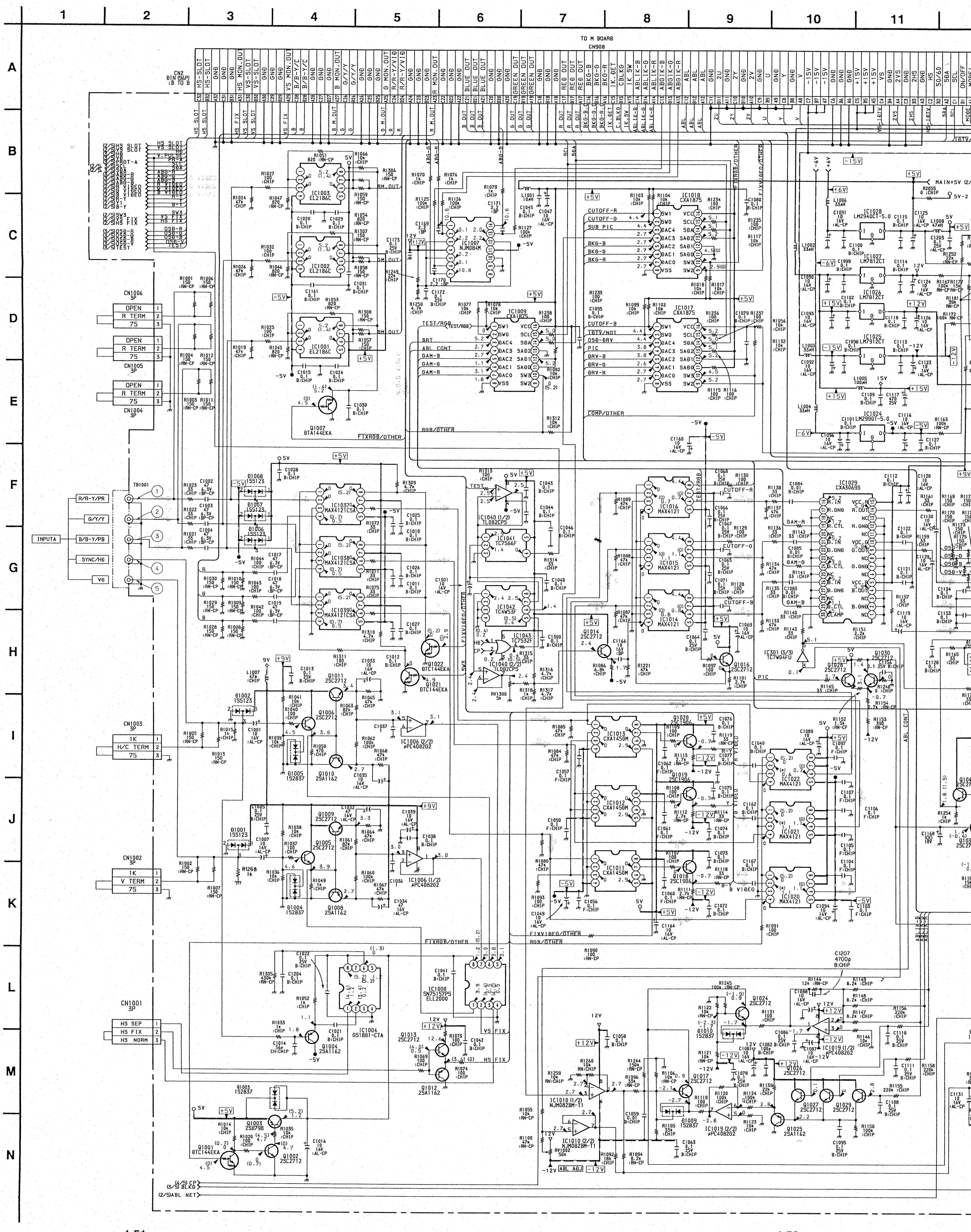
Reference information

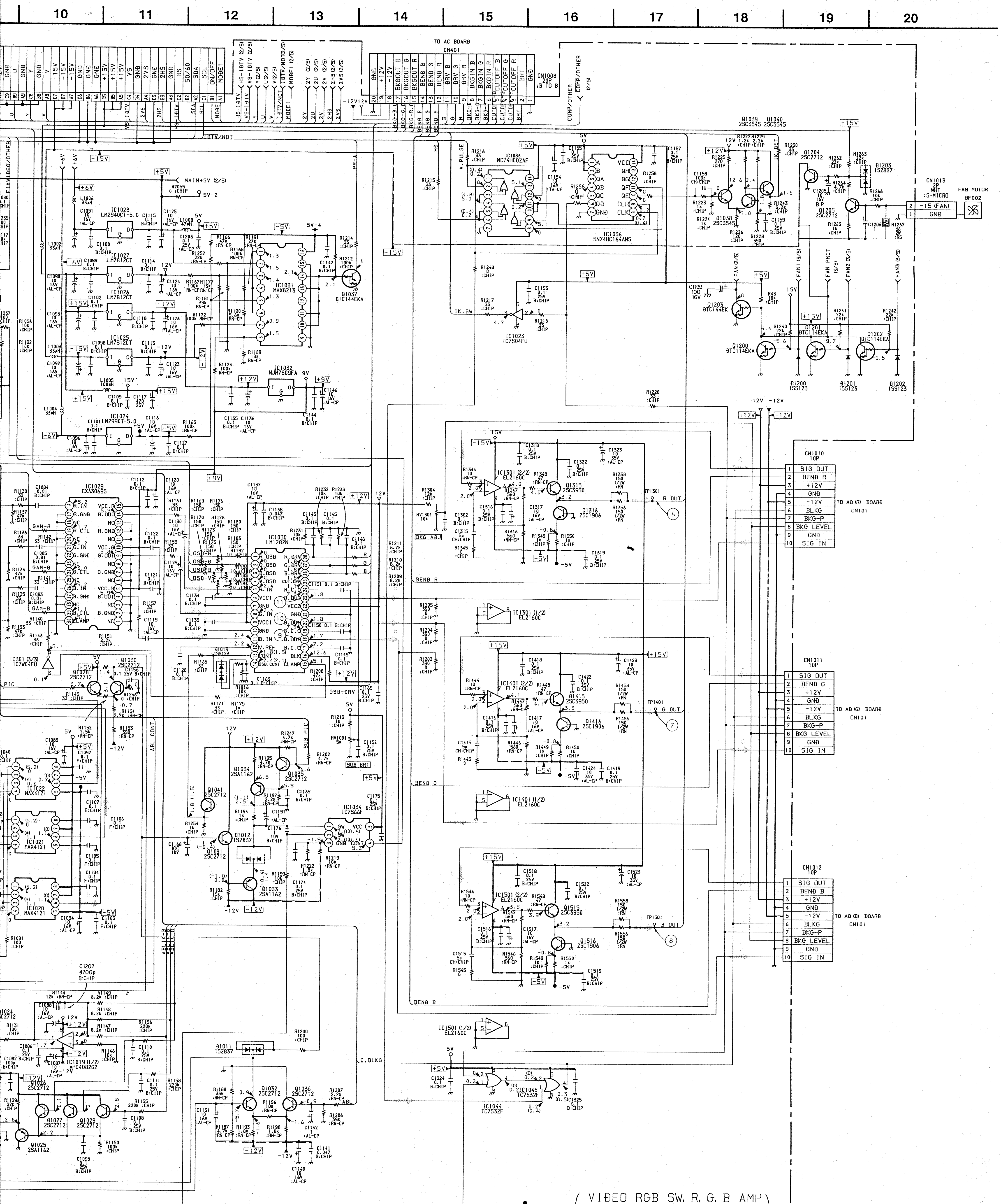
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- **A (1/5) (PRE AMP, DAC & SW, RGB-VIDEO SW, VOLTAGE DET) DIAGRAM**
- Refer to page 4-65 to 4-68 for Printed Wiring Board
- Refer to page 4-72, 73 for Waveforms
- Refer to page 4-69 to 4-71 for Function of Semiconductor
- Refer to page 4-74 to 4-80 for IC Block Diagrams.

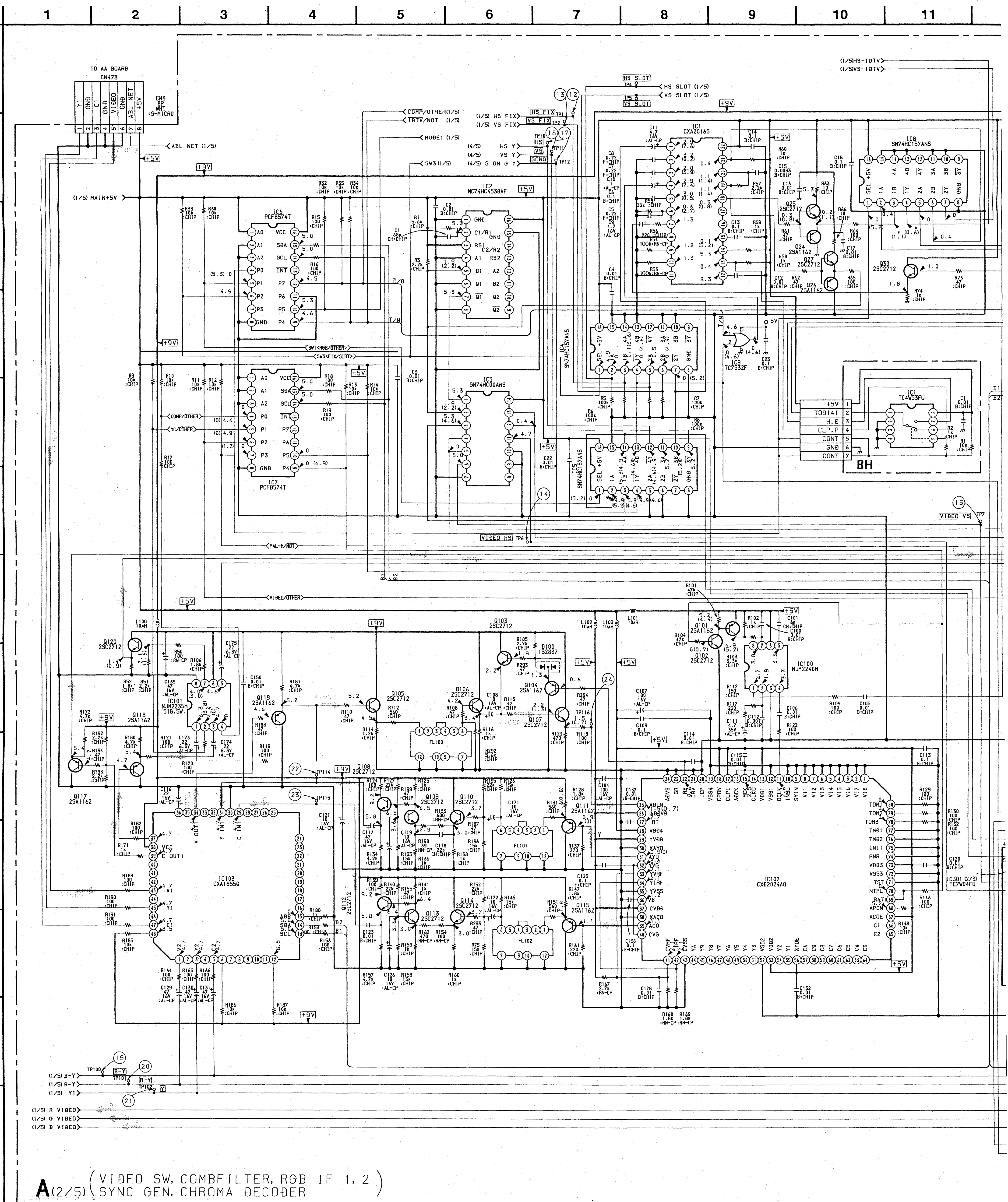

TO M BOARD
CN908
CN2
INPUTA
TB1001
CN1001
CN1002
CN1003
CN1004
CN1005
CN1006
IC1001 EL2186C
IC1002 EL2186C
IC1003 EL2186C
IC1009 CXA1875
IC1017 CXA1875
IC1018 CXA1875
IC1029 CXA3069S
ABL CONT
FIXRGB/OTHER
FIXVIDEO/OTHER
RGB/OTHER
COMP/OTHER


10
11
12
13
14
15
16
17
18
19
20
TO AC BOARD
CN401
GND
+12V
-12V
BKGOUT B
BKGOUT G
BKGOUT R
BEND B
BEND G
BEND R
DRV B
DRV G
DRV R
BKGIN B
BKGIN G
BKGIN R
CUTOFF B
CUTOFF G
CUTOFF R
BRT
CN1008
20P
:B TO B
COMP/OTHER
COMP/OTHER (2/5)
HS-IDTV (2/5)
VS-IDTV (2/5)
Y(2/5)
U(2/5)
V(2/5)
IDTV/NOT(2/5)
MODE1 (2/5)
2Y (2/5)
2U (2/5)
2V (2/5)
2HS (2/5)
2VS (2/5)
MAIN+5V (2/5)
IC1028 LM2940CT-5.0
IC1027 LM7812CT
IC1026 LM7812CT
IC1025 LM7912CT
IC1024 LM2990T-5.0
IC1031 MAX8213
IC1032 NJM7809FA
IC1033 MC74HC02AF
IC1036 SN74HC164ANS
IC1023 TC7S04FU
Q1037 DTC144EKA
Q1039 2SC3545
Q1040 2SC3545
Q1038 2SC3545
Q1204 2SC2712
Q1205 2SC2712
D1203 1S2837
CN1013
2P
WHT
:S-MICRO
-15 (FAN)
GND
FAN MOTOR
BF002
FAN (3/5)
FAN1 (3/5)
FAN PROT (3/5)
FAN2 (3/5)
FAN3 (3/5)
Q1203 DTC144EK
Q1200 DTC114EKA
Q1201 DTC114EKA
Q1202 DTC114EKA
D1200 1SS123
D1201 1SS123
D1202 1SS123
IC1029 CXA3069S
IC1030 LM1282N
IC1301 (2/2) EL2160C
IC1301 (1/2) EL2160C
IC1401 (2/2) EL2160C
IC1401 (1/2) EL2160C
IC1501 (2/2) EL2160C
IC1501 (1/2) EL2160C
Q1315 2SC3950
Q1316 2SC1906
Q1415 2SC3950
Q1416 2SC1906
Q1515 2SC3950
Q1516 2SC1906
TP1301 R OUT
TP1401 G OUT
TP1501 B OUT
CN1010 10P
CN1011 10P
CN1012 10P
SIG OUT
BEND R
BEND G
BEND B
+12V
GND
-12V
BLKG
BKG-P
BKG LEVEL
SIG IN
TO AB (R) BOARD CN101
TO AB (G) BOARD CN101
TO AB (B) BOARD CN101
BKG ADJ
BEND R
BEND G
BEND B
SUB PIC
SUB BRT
ABL CONT
OSD-DRV
IC301 (3/3) TC7W04FU
Q1028 2SC2712
Q1030 2SC2712
IC1020 MAX4121
IC1021 MAX4121
IC1022 MAX4121
IC1034 TC7S66F
Q1034 2SA1162
Q1035 2SC2712
Q1041 2SC2712
Q1012 1S2837
Q1051 2SC2712
Q1033 2SA1162
IC1019 (1/2) μPC4082G2
Q1026 2SC2712
Q1027 2SC2712
Q1029 2SC2712
Q1025 2SA1162
D1011 1S2837
Q1032 2SC2712
Q1036 2SC2712
C.BLKG
IC1044 TC7S32F
IC1045 TC7S32F
IDTV/NOT
+15V
-15V
+5V
-5V
+12V
-12V
+9V
+6V
-6V

A (1/5) (VIDEO RGB SW, R, G, B AMP DAC&SW, VOLTAGE DETECT)

B-SS1597<U/C>-A..-P1

- **A (2/5) (VIDEO SW, COMB FILTER, RGB IF 1.2, SYNC GEN, CHROMA DECODER), BH (SWITCH) DIAGRAM**
- Refer to page 4-65 to 4-68 for Printed Wiring Board
- Refer to page 4-72, 73 for Waveforms
- Refer to page 4-69 to 4-71 for Function of Semiconductor
- Refer to page 4-74 to 4-80 for IC Block Diagrams



1
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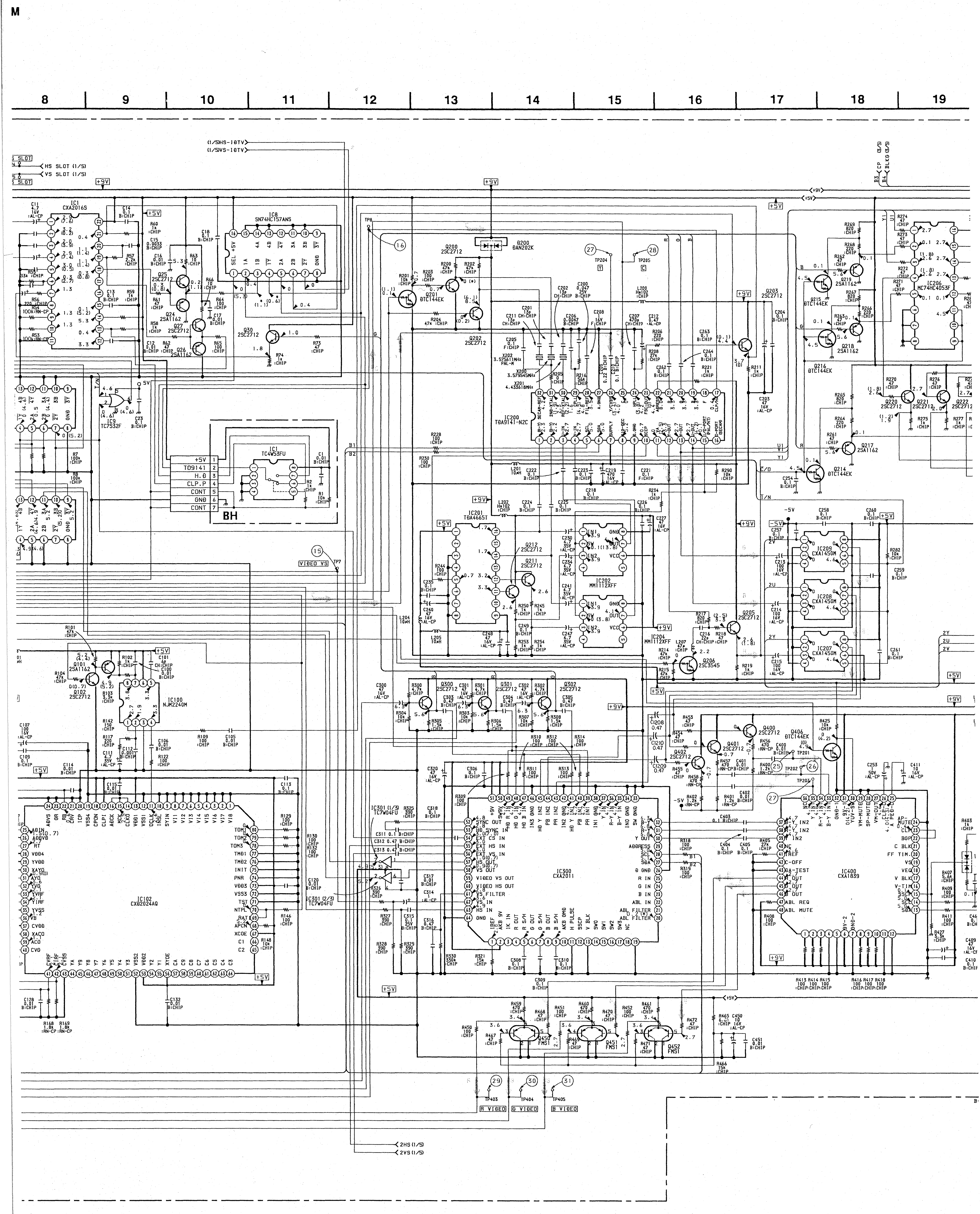
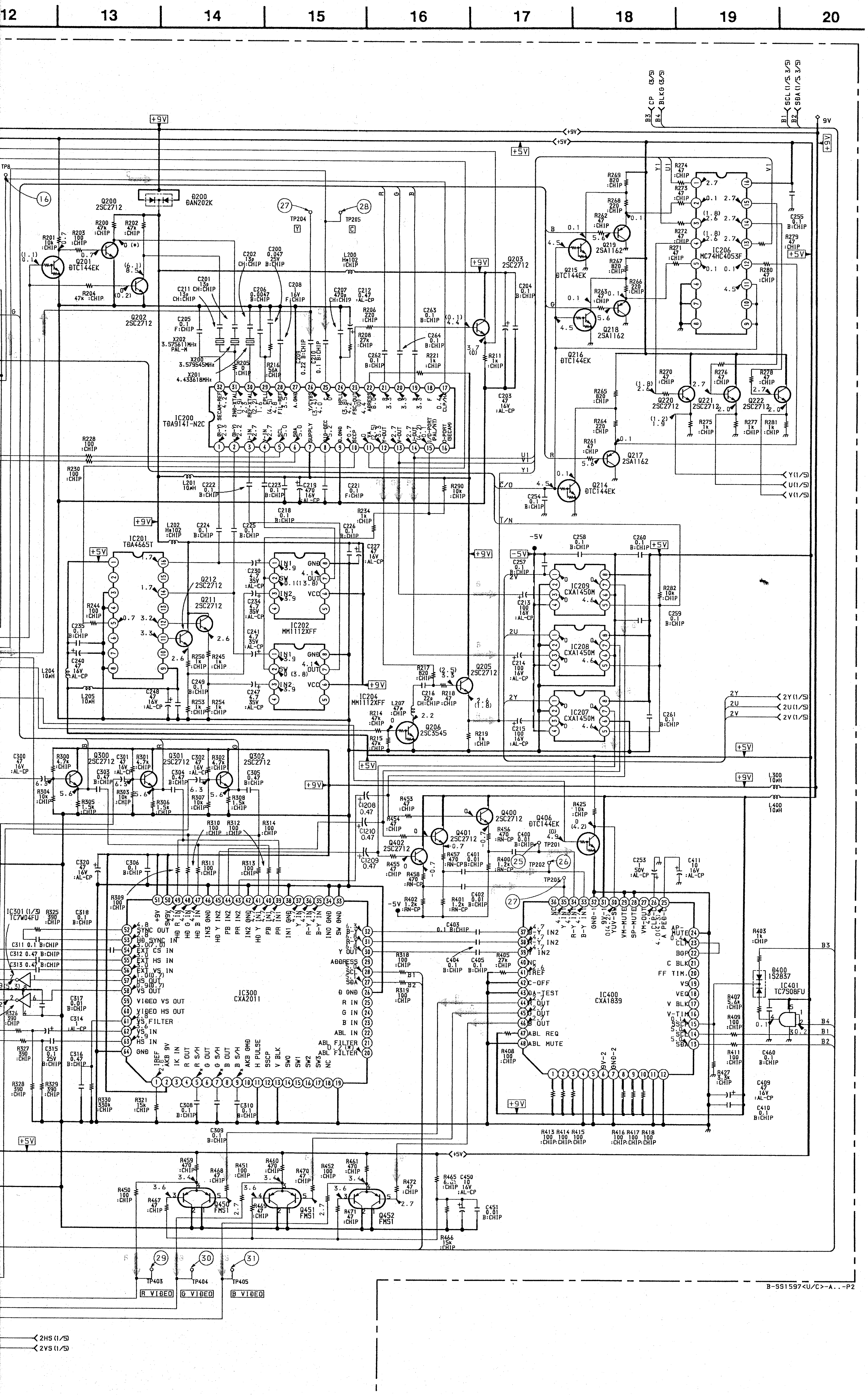
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
TO AA BOARD
CN473
Y1
GND
C1
GND
VIDEO
GND
ABL NET
+5V
CN3
8P
WHT
:S-MICRO
ABL NET (1/5)
(1/5) MAIN+5V
COMP/OTHER(1/5)
IDTV/NOT (1/5)
MODE1 (1/5)
SW3 (1/5)
(1/5) HS FIX
(1/5) VS FIX
HS FIX
VS FIX
(4/5) HS Y
(4/5) VS Y
(4/5) S ON G Y
HS
VS
SONG
TP10
TP11
TP12
TP2
HS SLOT
VS SLOT
HS SLOT (1/5)
VS SLOT (1/5)
TP4
TP5
(1/5)HS-IDTV
(1/5)VS-IDTV
IC1
CXA2016S
IC2
MC74HC4538AF
IC3
SN74HC00ANS
IC4
SN74HC157ANS
IC5
SN74HC157ANS
IC6
PCF8574T
IC7
PCF8574T
IC8
SN74HC157ANS
IC9
TC7S32F
SW1(RGB/OTHER)
SW3(FIX/SLOT)
COMP/OTHER
YC/OTHER
PAL-M/NOT
VIDEO/OTHER
VIDEO HS
TP6
VIDEO VS
TP7
+5V
TO9141
H.D
CLP.P
CONT
GND
CONT
IC1
TC4W53FU
BH
IC100
NJM2240M
IC101
NJM2235M
SIG.SW.
IC102
CXD2024AQ
IC103
CXA1855Q
IC301 (2/3)
TC7W04FU
FL100
FL101
FL102
Q24 2SA1162
Q25 2SC2712
Q26 2SA1162
Q27 2SC2712
Q30 2SC2712
Q101 2SA1162
Q102 2SC2712
Q103 2SC2712
Q104 2SA1162
Q105 2SC2712
Q106 2SC2712
Q107 2SC2712
Q108 2SC2712
Q109 2SC2712
Q110 2SC2712
Q111 2SA1162
Q112 2SC2712
Q113 2SC2712
Q114 2SC2712
Q115 2SA1162
Q117 2SA1162
Q118 2SA1162
Q119 2SA1162
Q120 2SC2712
D100 1S2837
L100 10μH
L101 10μH
L102 10μH
L103 10μH
TP100
TP101
TP102
TP114
TP115
TP116
B-Y
R-Y
Y
(1/5) B-Y
(1/5) R-Y
(1/5) Y1
(1/5) R VIDEO
(1/5) G VIDEO
(1/5) B VIDEO

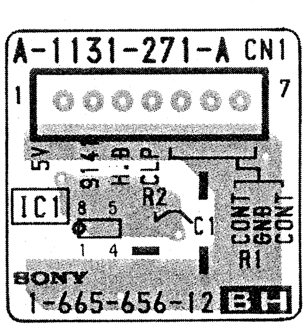
A(2/5) (VIDEO SW, COMBFILTER, RGB IF 1, 2 SYNC GEN, CHROMA DECODER)

M
8
9
10
11
12
13
14
15
16
17
18
19
HS SLOT (1/5)
VS SLOT (1/5)
(1/5)HS-IBTV
(1/5)VS-IBTV
B3 CP (3/5)
B4 BLKG (3/5)
IC1 CXA2016S
IC8 SN74HC157ANS
IC9 TC7S32F
IC1 TC4W53FU
BH
TD9141
H.0
CLP.P
CONT
GND
D200 DAN202K
IC200 TDA9141-N2C
IC201 TDA4665T
IC202 MM1112XFF
IC204 MM1112XFF
IC206 MC74HC4053F
IC207 CXA1450M
IC208 CXA1450M
IC209 CXA1450M
IC100 NJM2240M
IC102 CXD2024AQ
IC300 CXA2011
IC301 (1/3) TC7W04FU
IC301 (2/3) TC7W04FU
IC400 CXA1839
VIDEO VS
TP7
TP8
TP204
TP205
TP403
TP404
TP405
R VIDEO
G VIDEO
B VIDEO
2HS (1/5)
2VS (1/5)
Q450 FMS1
Q451 FMS1
Q452 FMS1
+5V
+9V
-5V


12
13
14
15
16
17
18
19
20
IC200 TDA9141-N2C
IC201 TDA4665T
IC202 MM1112XFF
IC204 MM1112XFF
IC206 MC74HC4053F
IC207 CXA1450M
IC208 CXA1450M
IC209 CXA1450M
IC300 CXA2011
IC301 (1/3) TC7W04FU
IC400 CXA1839
IC401 TC7S08FU
D200 DAN202K
D400 1SS237
Q200 2SC2712
Q201 DTC144EK
Q202 2SC2712
Q203 2SC2712
Q205 2SC2712
Q206 2SC3545
Q211 2SC2712
Q212 2SC2712
Q214 DTC144EK
Q215 DTC144EK
Q216 DTC144EK
Q217 2SA1162
Q218 2SA1162
Q219 2SA1162
Q220 2SC2712
Q221 2SC2712
Q222 2SC2712
Q300 2SC2712
Q301 2SC2712
Q302 2SC2712
Q400 2SC2712
Q401 2SC2712
Q402 2SC2712
Q406 DTC144EK
Q450 FMS1
Q451 FMS1
Q452 FMS1
X200 3.579545MHz
X201 4.433618MHz
X202 3.575611MHz PAL-N
TP204
TP205
TP403
TP404
TP405
R VIDEO
G VIDEO
B VIDEO
+9V
+5V
-5V
9V
B3 CP (3/5)
B4 BLKG (3/5)
B1 SCL (1/5, 3/5)
B2 SBA (1/5, 3/5)
Y (1/5)
U (1/5)
V (1/5)
2Y (1/5)
2U (1/5)
2V (1/5)
2HS (1/5)
2VS (1/5)
B-SS1597<U/C>-A..-P2

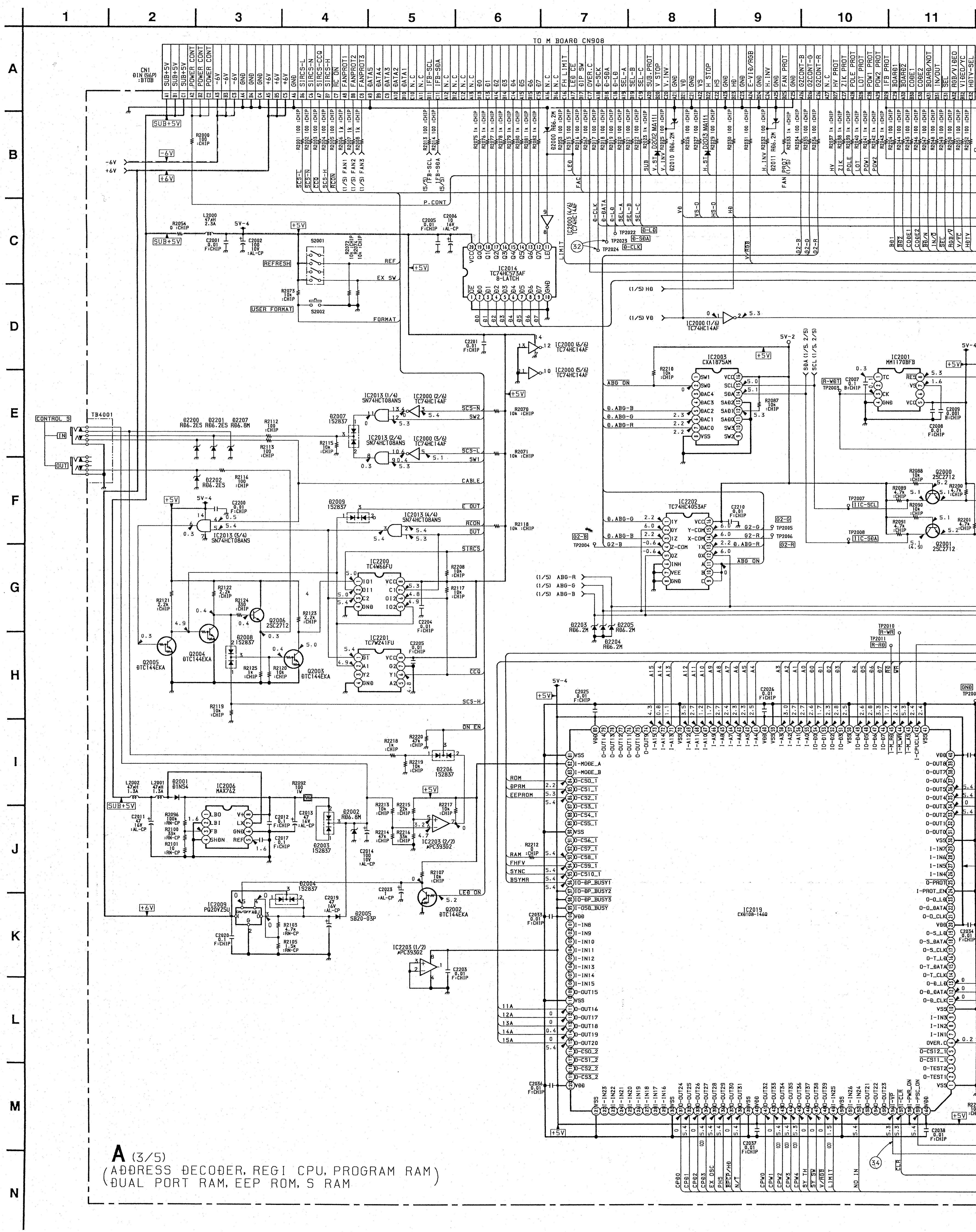
BH (SWITCH) BOARD

— BH BOARD — <Component side>


A-1131-271-A CN1
1
7
5V
9141
H.B
CLP
R2
C1
IC1
8
5
1
4
CONT
GND
CONT
R1
SONY
1-665-656-12
BH

- ▨: Pattern from the side which enables seeing.
- ▨: Pattern of the rear side.

- **A (3/5) (ADDRESS DECODER, EEP ROM, REGI CPU, PROG RAM, DUAL PORT RAM, S RAM) DIAGRAM**
- Refer to page 4-65 to 4-68 for Printed Wiring Board
- Refer to page 4-72, 73 for Waveforms
- Refer to page 4-69 to 4-71 for Function of Semiconductor
- Refer to page 4-74 to 4-80 for IC Block Diagrams


1
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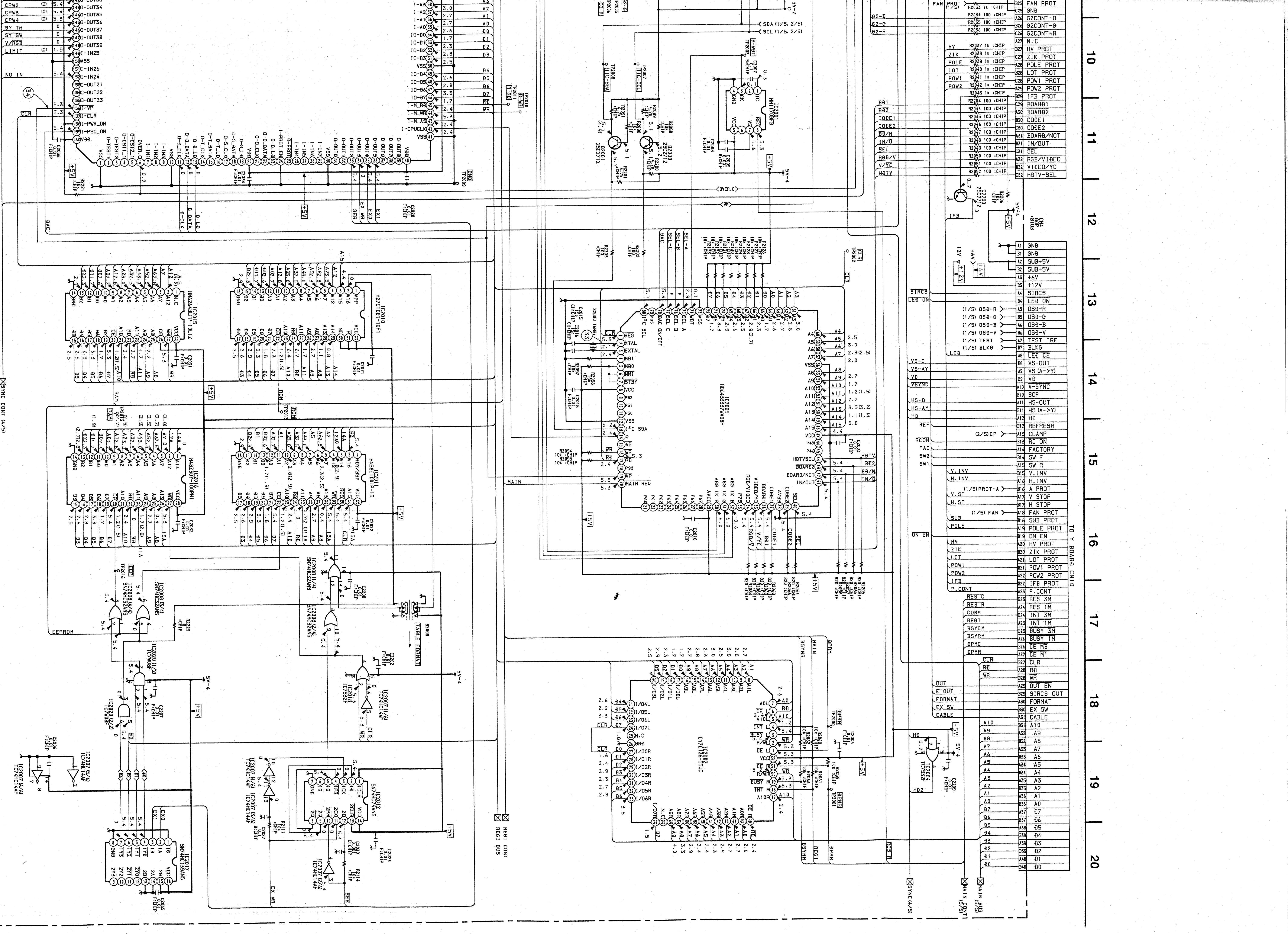
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
TO M BOARD CN908
CN1 8IN (96P) :BTOB
SUB+5V
POWER CONT
-6V
GND
+6V
SIRCS-L
SIRCS-N
SIRCS-CCQ
SIRCS-H
RC ON
FANPROT1
FANPROT2
FANPROT3
DATA5
DATA4
DATA3
DATA2
DATA1
N.C
IFB-SCL
IFB-SDA
D0
D1
D2
D3
D4
D5
D6
D7
FH LIMIT
LED CE
DIP SW
OVER.C
D-SCK
D-SDA
D-LD
SEL-A
SEL-B
SEL-C
SUB.PROT
V STOP
V.INV
VD
VS
H STOP
HS
HD
E-VID/RGB
H.INV
FAN PROT
G2CONT-B
G2CONT-G
G2CONT-R
HV PROT
ZIK PROT
POLE PROT
LOT PROT
POW1 PROT
POW2 PROT
IFB PROT
BOARD1
BOARD2
CODE1
CODE2
BOARD/NOT
IN/OUT
SEL
RGB/VIDEO
VIDEO/YC
HDTV-SEL
CONTROL S
TB4001
IN
OUT
REFRESH
USER FORMAT
S2001
S2002
IC2014 TC74HC573AF 8-LATCH
IC2000 TC74HC14AF
IC2013 SN74HCT08ANS
IC2003 CXA1875AM
IC2001 MM1170BFB
IC2202 TC74HC4053AF
IC2200 TC4W66FU
IC2201 TC7W241FU
IC2006 MAX762
IC2009 PQ20VZ5U
IC2203 μPC393G2
IC2019 CX6108-146Q
Q2000 2SC2712
Q2001 2SC2712
Q2002 DTC144EKA
Q2003 DTC144EKA
Q2004 DTC144EKA
Q2005 DTC144EKA
Q2006 2SC2712
ABG ON
SCS-N
SCS-L
CABLE
E OUT
RCON
OUT
SIRCS
CCQ
SCS-H
ON EN
LED ON
ROM
DPRM
EEPROM
RAM
FHFV
SYNC
BSYMR
CP00
CP01
CP02
CP03
EX OSC
PHS
BPCP/HD
N/T
CPW0
CPW1
CPW2
CPW3
CPW4
SY TH
SY SW
V/RGB
LIMIT
NO IN
CLR
A (3/5)
(ADDRESS DECODER, REGI CPU, PROGRAM RAM
DUAL PORT RAM, EEP ROM, S RAM)

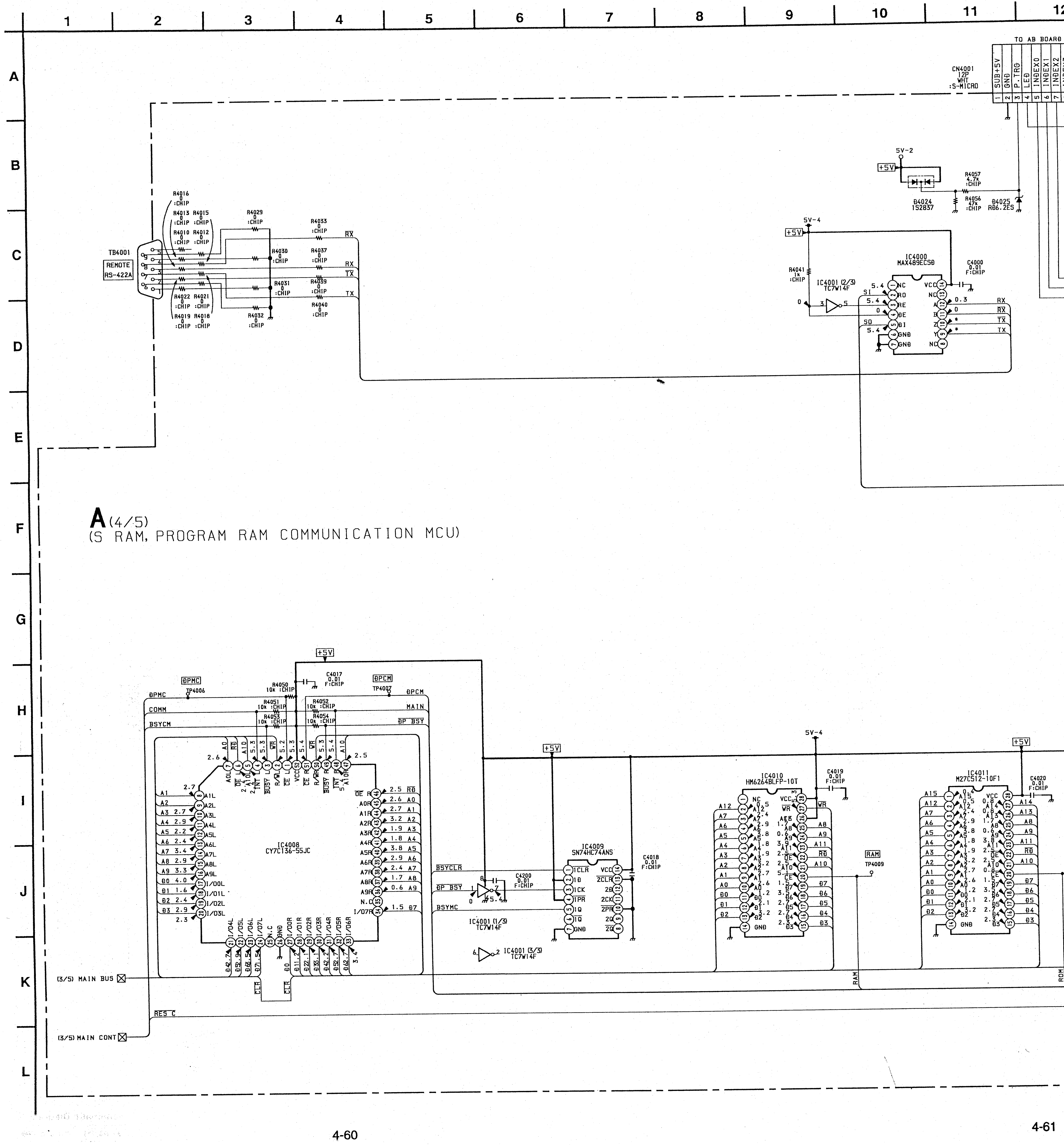

IC2015 HM62648LFP-10LTZ
IC2010 HN27C101-10P1
IC2016 M6823U-10RPM1
IC2011 HN58C1001P-15
IC2005 HD6433537A00BF
IC2001 MM1170BFB
IC2002 CY7C136-55JC
IC2008 SN74HC32ANS
IC2020 TC7W08F
IC2017 SN74HC139ANS
IC2012 SN74HC74ANS
IC2007 TC74HC14AF
IC2013 TC7S32F
IC2004 TC7S32F
Q2000 2SC2712
Q2001 2SC2712
Q2200 2SC2712
X2000 16MHz
S2000 TABLE FORMAT
RAM
ROM
EEPROM
TO Y BOARD CN10
CN4 80P B/B0B
SYNC CONT (4/5)
REG1 BUS
REG1 CONT
MAIN BUS (5/5)
MAIN CONT (5/5)
SYNC(4/5)
SDA (1/5, 2/5)
SCL (1/5, 2/5)
OVER.C
VM
EX WR
SER
5V-4
+5V
10
11
12
13
14
15
16
17
18
19
20

Schematic Diagram

A (4/5) board →

B-SS1597<U/C>-A_-P3

- **A (4/5) (S RAM, PROG RAM, COMM MCU) DIAGRAM**
- Refer to page 4-65 to 4-68 for Printed Wiring Board
- Refer to page 4-72, 73 for Waveforms
- Refer to page 4-69 to 4-71 for Function of Semiconductor
- Refer to page 4-74 to 4-80 for IC Block Diagrams



A (4/5)
(S RAM, PROGRAM RAM COMMUNICATION MCU)

1
2
3
4
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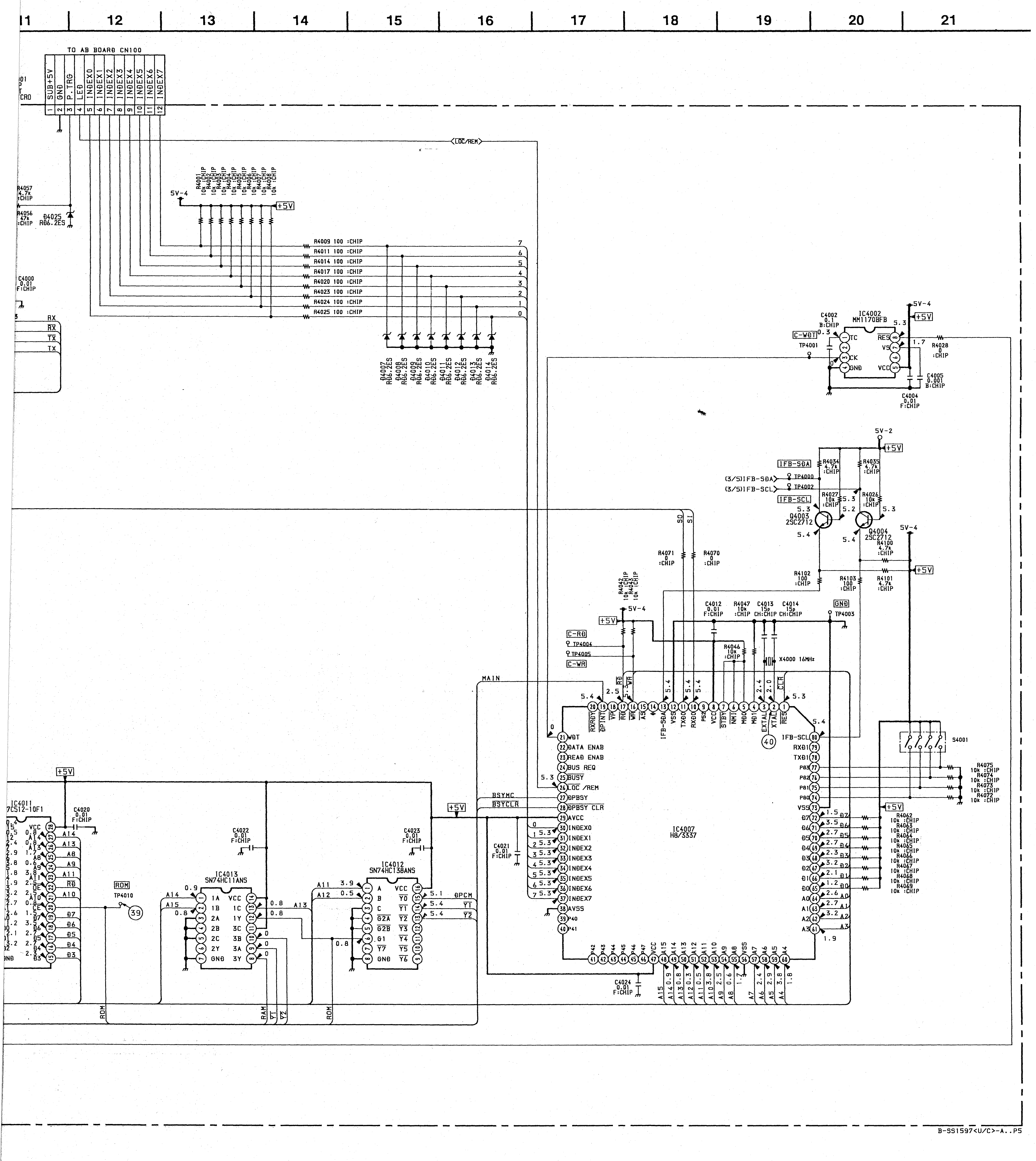
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
TO AB BOARD
CN4001 12P WHT :S-MICRO
SUB+5V
GND
P.TRG
LED
INDEX0
INDEX1
INDEX2
TB4001
REMOTE RS-422A
R4016
R4013
R4015
R4010
R4012
R4022
R4021
R4019
R4018
R4029
R4030
R4031
R4032
R4033
R4037
R4039
R4040
RX
TX
5V-2
+5V
D4024 1S2837
R4057 4.7k :CHIP
R4056 47k :CHIP
D4025 RB6.2ES
5V-4
R4041 1k :CHIP
IC4001 (2/3) TC7W14F
IC4000 MAX489ECSO
C4000 0.01 F:CHIP
SI
SO
ΘPMC
TP4006
R4050 10k :CHIP
C4017 0.01 F:CHIP
ΘPCM
TP4007
R4051 10k :CHIP
R4052 10k :CHIP
R4053 10k :CHIP
R4054 10k :CHIP
COMM
BSYCM
MAIN
ΘP BSY
IC4008 CY7C136-55JC
IC4009 SN74HC74ANS
C4018 0.01 F:CHIP
C4200 0.01 F:CHIP
BSYCLR
BSYMC
IC4001 (1/3) TC7W14F
IC4001 (3/3) TC7W14F
IC4010 HM6264BLFP-10T
C4019 0.01 F:CHIP
RAM
TP4009
IC4011 M27C512-10F1
C4020 0.01 F:CHIP
ROM
CLR
RES C
(3/5) MAIN BUS
(3/5) MAIN CONT



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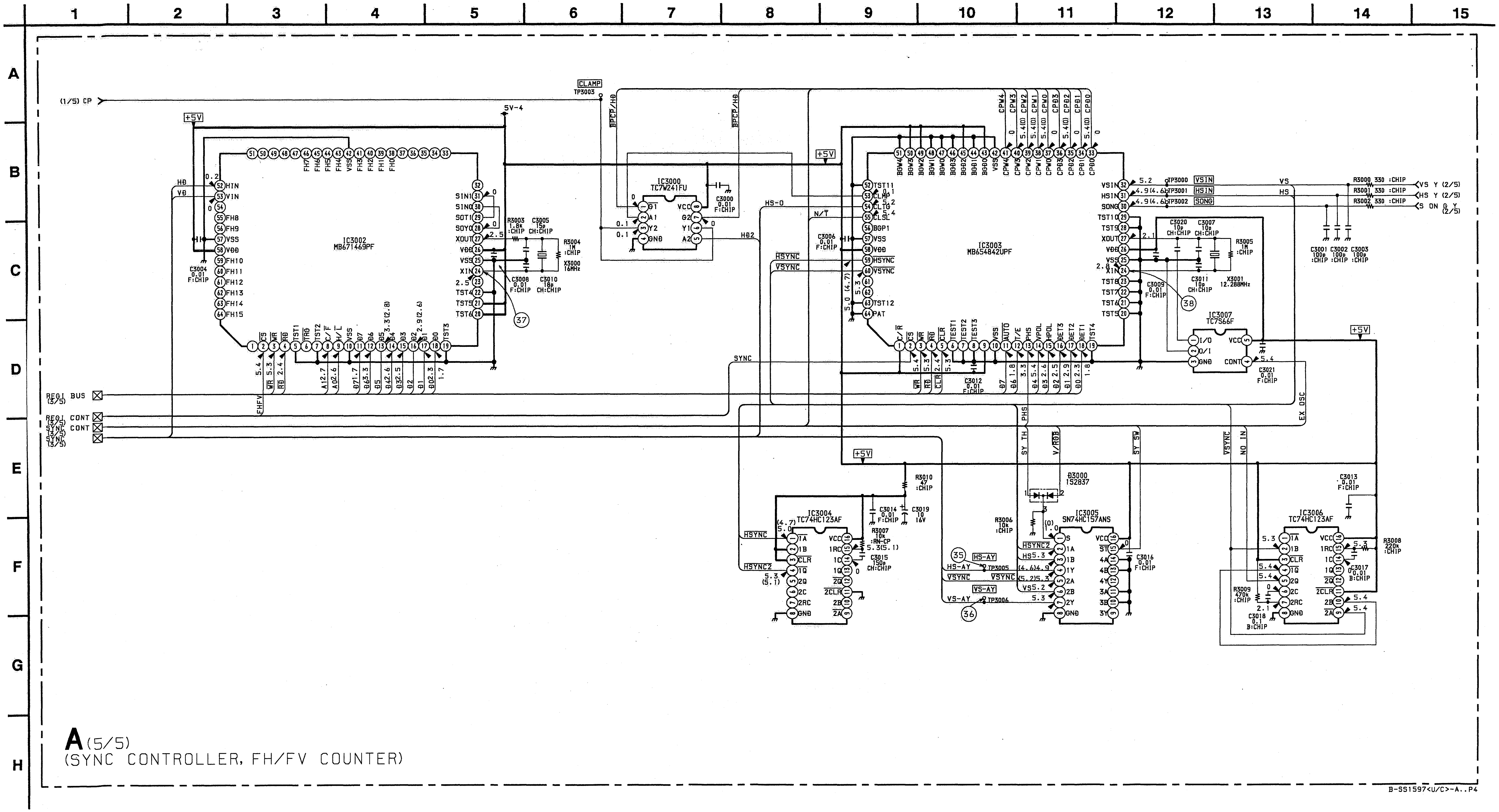
21
TO AB BOARD CN100
1 SUB+5V
2 GND
3 P.TRG
4 LED
5 INDEX0
6 INDEX1
7 INDEX2
8 INDEX3
9 INDEX4
10 INDEX5
11 INDEX6
12 INDEX7
LOC/REM
R4001–R4008 10k :CHIP
5V-4
+5V
R4009 100 :CHIP
R4011 100 :CHIP
R4014 100 :CHIP
R4017 100 :CHIP
R4020 100 :CHIP
R4023 100 :CHIP
R4024 100 :CHIP
R4025 100 :CHIP
D4007–D4014 RD6.2ES
D4025 RD6.2ES
R4057 4.7k :CHIP
R4056 47k :CHIP
C4000 0.01 F:CHIP
RX
RX
TX
TX
IC4002 MM1170BFB
C4002 0.1 B:CHIP
C-WDT
TP4001
TC
CK
GND
RES
VS
VCC
R4028 0 :CHIP
C4005 0.001 B:CHIP
C4004 0.01 F:CHIP
5V-2
IFB-SDA
IFB-SCL
(3/5)IFB-SDA
(3/5)IFB-SCL
TP4000
TP4002
R4034 4.7k :CHIP
R4035 4.7k :CHIP
R4027 10k :CHIP
R4026 10k :CHIP
Q4003 2SC2712
Q4004 2SC2712
R4100 4.7k :CHIP
R4101 4.7k :CHIP
R4102 100 :CHIP
R4103 100 :CHIP
R4071 0 :CHIP
R4070 0 :CHIP
SO
SI
R4042 10k :CHIP
R4043 10k :CHIP
C-RD
C-WR
TP4004
TP4005
C4012 0.01 F:CHIP
R4047 10k :CHIP
C4013 15p CH:CHIP
C4014 15p CH:CHIP
R4046 10k :CHIP
X4000 16MHz
GND
TP4003
MAIN
IC4007 H8/3337
RXRDY
DPINT
VP
RD
WR
AS
IFB-SDA
VSS
TX00
RX00
PS2
VCC
STBY
NMI
MD0
MD1
EXTAL
XTAL
RES
CLR
IFB-SCL
RX01
TX01
P83
P82
P81
P80
WDT
DATA ENAB
READ ENAB
BUS REQ
BUSY
LOC /REM
DPBSY
DPBSY CLR
AVCC
INDEX0
INDEX1
INDEX2
INDEX3
INDEX4
INDEX5
INDEX6
INDEX7
AVSS
P40
P41
P42
P43
P44
P45
P46
P47
S4001
R4075 10k :CHIP
R4074 10k :CHIP
R4073 10k :CHIP
R4072 10k :CHIP
R4062–R4069 10k :CHIP
C4021 0.01 F:CHIP
C4024 0.01 F:CHIP
BSYMC
BSYCLR
IC4011 7C512-10F1
C4020 0.01 F:CHIP
ROM
TP4010
IC4013 SN74HC11ANS
C4022 0.01 F:CHIP
IC4012 SN74HC138ANS
C4023 0.01 F:CHIP
DPCM
RAM
Y1
Y2
B-SS1597<U/C>-A..PS

• A (5/5) (FH/FV COUNTER, SYNC CONTROLLER) DIAGRAM

- Refer to page 4-65 to 4-68 for Printed Wiring Board
- Refer to page 4-72, 73 for Waveforms
- Refer to page 4-69 to 4-71 for Function of Semiconductor
- Refer to page 4-74 to 4-80 for IC Block Diagrams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A
B
C
D
E
F
G
H
(1/5) CP
+5V
5V-4
CLAMP
TP3003
IC3002
MB671469PF
IC3000
TC7W241FU
IC3003
MB654842UPF
IC3004
TC74HC123AF
IC3005
SN74HC157ANS
IC3006
TC74HC123AF
IC3007
TC7S66F
X3000
16MHz
X3001
12.288MHz
D3000
1SS357
HSYNC
VSYNC
HS-O
SYNC
N/T
VSIN
HSIN
SONG
HS-AY
VS-AY
EX OSC
REG1 BUS (3/5)
REG1 CONT (3/5)
SYNC CONT (4/5)
(3/5)
VS Y (2/5)
HS Y (2/5)
S ON G Y (2/5)
A(5/5)
(SYNC CONTROLLER, FH/FV COUNTER)
B-SS1597<U/C>-A..P4

A BOARD (Conductor side)
Semiconductor Location

DIODE	
D200	C-5
D400	B-4
D1001	F-1
D1002	F-2
D1003	F-2
D1004	F-3
D1005	F-3
D1006	F-2
D1007	F-2
D1008	F-3
D1009	E-3
D1010	D-3
D1011	D-3
D1012	C-2
D1013	C-1
D1200	C-6
D1201	C-6
D2000	A-8
D2001	B-10
D2002	B-10
D2003	B-10
D2004	A-10
D2008	C-10
D2009	C-10
D2010	A-8
D2011	A-8
D2200	G-10
D2201	F-9
D2202	G-9
D2203	B-8
D2204	B-8
D2205	B-8
D2206	B-10
D2207	G-10
D3000	C-9
D4007	F-8
D4008	F-8
D4009	F-8
D4010	F-8
D4011	F-8
D4012	F-7
D4013	F-7
D4014	F-7
D4024	F-7
D4025	F-7

IC	
IC1	D-4
IC8	D-5
IC9	E-5
IC101	E-4
IC200	C-5
IC201	B-5
IC202	B-5
IC204	B-5
IC207	C-4
IC208	C-4
IC209	B-4
IC1011	E-1
IC1012	E-1
IC1013	E-2
IC1017	D-3
IC1019	C-2
IC1024	A-4
IC1025	A-4
IC1026	A-6
IC1027	A-6
IC1028	A-4
IC1029	D-1
IC1030	C-1
IC1031	B-3
IC1032	A-5
IC1033	E-2
IC1036	E-2
IC1037	E-2
IC1038	E-1
IC1039	E-1
IC1041	B-2
IC1042	D-3
IC1043	D-3
IC1301	B-3
IC1401	B-2
IC1501	B-1
IC2001	C-8
IC2004	B-7
IC2007	D-8
IC2008	E-10
IC2010	E-9
IC2011	D-9
IC2016	D-9
IC2017	D-8
IC2018	D-9
IC2020	D-9
IC2202	B-9
IC3004	C-8
IC3005	C-9
IC3006	C-8
IC4001	E-8
IC4002	E-8
IC4011	E-6

TRANSISTOR	
Q101	F-5
Q102	F-5
Q105	F-4
Q106	F-5
Q107	F-5
Q108	F-4
Q109	E-4
Q110	E-4
Q111	E-5
Q112	E-4
Q113	E-3
Q114	E-3
Q117	F-4
Q118	F-4
Q119	F-4
Q120	E-4
Q200	C-5
Q201	D-5
Q202	C-5
Q203	C-5
Q205	C-5
Q211	B-5
Q212	B-4
Q214	B-5
Q217	B-5
Q218	C-6
Q220	B-5
Q221	B-5
Q222	B-5
Q300	C-4
Q301	C-4
Q302	C-4
Q406	B-4
Q1001	E-2
Q1002	E-2
Q1004	F-2
Q1005	F-2
Q1006	F-2
Q1007	F-2
Q1008	F-2
Q1009	F-2
Q1010	E-2
Q1011	F-2
Q1014	E-2
Q1016	D-2
Q1017	E-3
Q1018	E-1
Q1019	E-1
Q1020	E-2
Q1021	E-2
Q1024	D-3
Q1028	C-3
Q1030	C-3
Q1031	C-3
Q1033	C-3
Q1036	E-2
Q1037	B-3
Q1041	C-2
Q1200	D-6
Q1201	D-6
Q1202	D-6
Q1203	D-6
Q1204	D-6
Q1205	D-6
Q1315	B-2
Q1316	B-3
Q1415	B-2
Q1416	B-2
Q1515	B-1
Q1516	B-1
Q2000	B-7
Q2001	B-7
Q2002	A-9
Q2003	C-10
Q2004	C-10
Q2005	C-10
Q2006	D-10
Q4003	E-8
Q4004	D-8

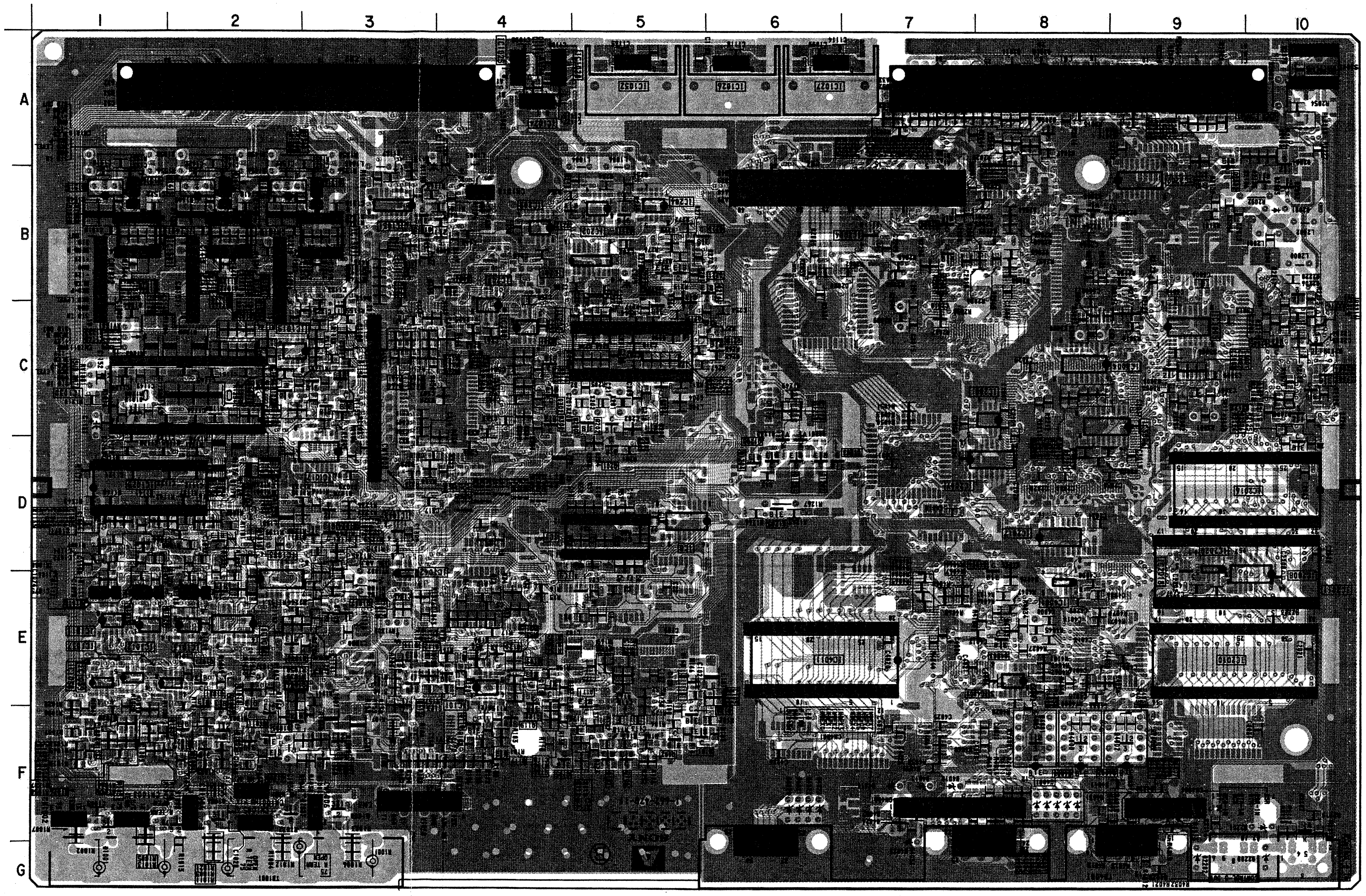
VARIABLE RESISTOR	
RV1001	C-1
RV1002	E-3
RV1300	E-3
RV1301	C-1

Schematic Diagram

← A (5/5) board

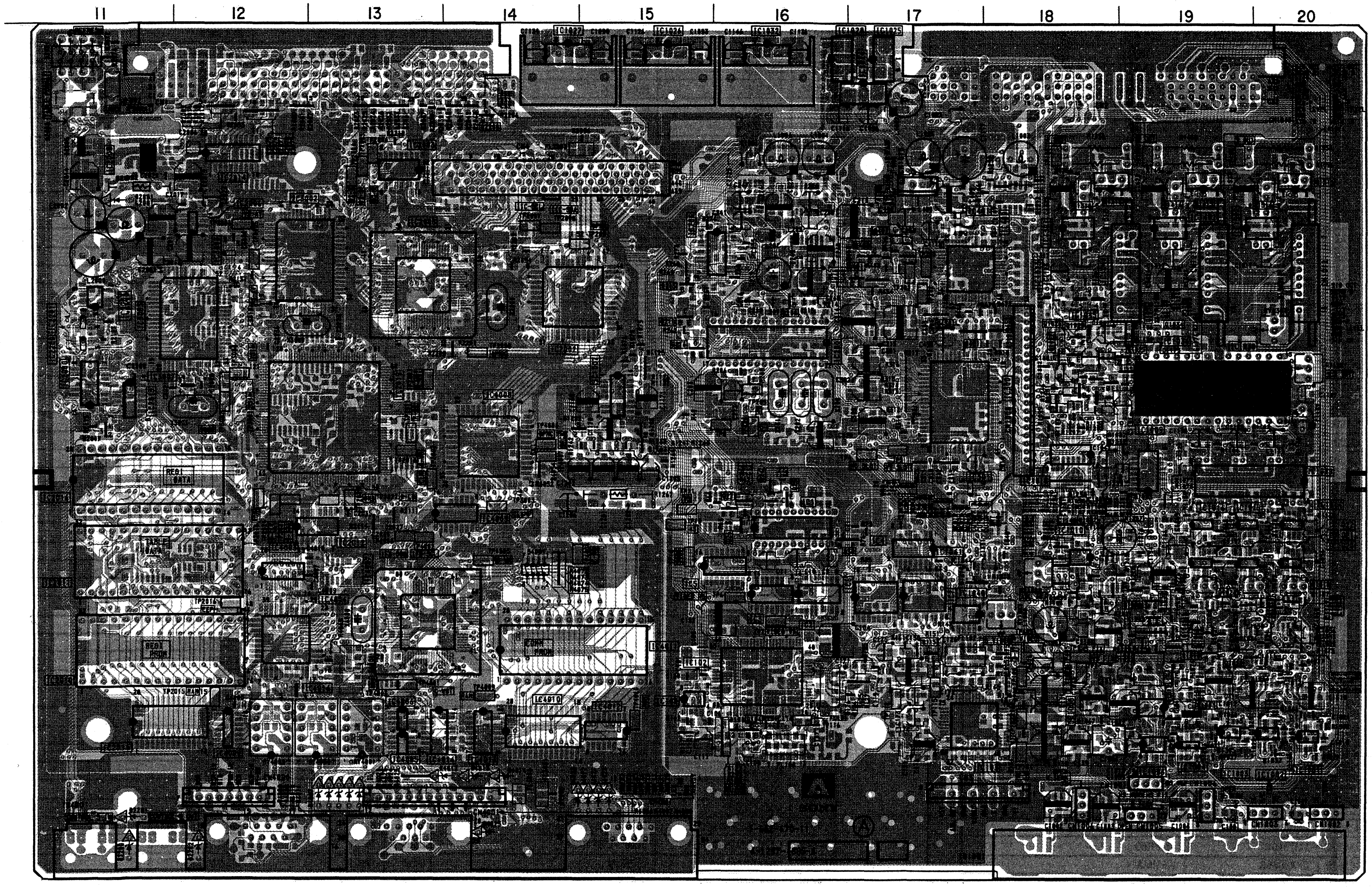
A (PRE AMP, DAC&SW, RGB-VIDEO SW, VOLTAGE DET, VIDEO SW, COMB FILTER, SYNC GEN, CHROMA DECODER, RGB IF1.2, ADDRESS DECODER, EEP ROM, S RAM, PROG RAM, REGI CPU, DUAL PORT RAM, COMM MCU, S RAM, FV/FH COUNTER, SYNC CONTROLLER) BOARD

— A BOARD — <Conductor side>



- ▒ : Pattern from the side which enables seeing.
- ▓ : Pattern of the rear side.

— A BOARD — <Component side>



- ▨ : Pattern from the side which enables seeing.
- ▩ : Pattern of the rear side.

A BOARD (Component side)
Semiconductor Location

DIODE	
D100	F-16
D1202	C-14
D1203	C-15
D2005	A-11
D2007	D-11
IC	
IC2	E-16
IC3	E-16
IC4	D-17
IC5	E-15
IC6	E-17
IC7	E-17
IC100	E-15
IC102	E-16
IC103	F-17
IC206	B-15
IC300	C-17
IC301	D-17
IC400	B-17
IC401	B-17
IC1001	F-20
IC1002	F-20
IC1003	F-19
IC1004	F-19
IC1006	F-19
IC1007	C-15
IC1008	F-19
IC1009	D-19
IC1010	D-18
IC1014	D-20
IC1015	D-19
IC1016	D-19
IC1018	D-18
IC1020	D-20
IC1021	D-19
IC1022	D-19
IC1023	C-18
IC1034	C-18
IC1040	E-17
IC1044	C-18
IC1045	C-18
IC2000	C-11
IC2002	C-14
IC2003	B-13
IC2005	B-13
IC2006	B-12
IC2009	A-11
IC2012	D-13
IC2013	C-11
IC2014	A-12
IC2015	F-11
IC2019	C-13
IC2200	C-11
IC2201	C-11
IC2203	C-11
IC3000	B-12
IC3002	B-12
IC3003	C-11
IC3007	C-12
IC4000	F-12
IC4007	E-13
IC4008	D-14
IC4009	D-14
IC4010	F-14
IC4012	F-15
IC4013	F-14
TRANSISTOR	
Q24	D-16
Q25	D-16
Q26	D-16
Q27	D-16
Q30	D-16
Q103	F-16
Q104	F-16
Q115	E-17
Q206	C-16
Q215	B-15
Q216	C-15
Q219	C-15
Q400	B-17
Q401	B-17
Q402	B-17
Q450	C-17
Q451	C-17
Q452	C-18
Q1003	F-19
Q1012	E-19
Q1013	E-19
Q1022	E-19
Q1025	C-19
Q1026	C-18
Q1027	C-18
Q1029	C-18
Q1032	E-18
Q1034	C-18
Q1035	C-18
Q1038	E-19
Q1039	E-19
Q1040	E-19
Q2200	A-14
TEST POINT	
TP1	E-18
TP2	E-18
TP4	D-17
TP5	D-17
TP6	E-16
TP7	E-16
TP8	C-16
TP10	D-15
TP11	D-15
TP12	D-15
TP100	E-18
TP101	F-18
TP102	F-18
TP114	E-17
TP115	E-17
TP116	F-16
TP201	B-17
TP202	B-17
TP203	B-17
TP204	C-16
TP205	C-16
TP403	E-18
TP404	E-18
TP405	E-18
TP1301	A-18
TP1401	A-19
TP1501	A-19
TP2000	C-14
TP2001	B-14
TP2002	D-13
TP2003	C-13
TP2004	B-13
TP2005	B-13
TP2006	A-13
TP2007	B-14
TP2008	B-14
TP2009	D-13
TP2010	D-13
TP2011	C-13
TP2013	D-12
TP2015	E-12
TP2016	E-12
TP2022	D-13
TP2023	D-12
TP2024	D-12
TP3000	C-12
TP3001	C-12
TP3002	C-12
TP3003	D-14
TP3005	B-12
TP3006	B-12
TP4000	D-13
TP4001	E-13
TP4002	D-13
TP4003	E-13
TP4004	D-14
TP4005	D-14
TP4006	D-14
TP4007	D-14
TP4009	E-14
TP4010	F-15

A BOARD

Function of Semiconductor (1/3)

D100	1S2837	VIDEO CLAMP	IC6	PCF8574T-T	D/A CONVERTER
D200	DAN202K	DC LEVEL SHIFT	IC7	PCF8574T-T	D/A CONVERTER
D400	1S2837	OR	IC8	SN74HC157ANS	SYNC SW-3
D1001	1SS123	PROTECTOR	IC9	TC7S32F	SYNC GEN-2
D1002	1SS123	PROTECTOR	IC100	NJM2240M	CLK-GEN
D1003	1S2837	PROTECTOR	IC101	NJM2235M	SIGNAL SW-7
D1004	1S2837	PROTECTOR	IC102	CXD2024AQ	COMB-FILTER
D1005	1S2837	PROTECTOR	IC103	CXA1855Q	VIDEO SW
D1006	1SS123	PROTECTOR	IC200	TDA9141-N2C	CHROMA. DEC
D1007	1SS123	PROTECTOR	IC201	TDA4665T-T	UV-AMP
D1008	1SS123	PROTECTOR	IC202	MM1112XFF	SIGNAL SW-2
D1009	1S2837	Q1017 PROT	IC204	MM1112XFF	SIGNAL SW-3
D1010	1S2837	Q1024 PROT	IC206	MC74HC4053F	SIGNAL SW-1
D1011	1S2837	ABL PROT	IC207	CXA1450M	SIGNAL SW-6
D1012	1S2837	Q1033 PROT	IC208	CXA1450M	SIGNALSW-5
D1013	1SS123	ABL PROT	IC209	CXA1450M	SIGNALSW-4
D1200	1SS123	FUN PROTECT	IC300	CXA2011Q	RGB IF-1
D1201	1SS123	FUN PROTECT	IC301	TC7W04FU	INVERTER
D1202	1SS123	FUN PROTECT	IC400	CXA1839Q-T6	RGB IF-2
D1203	1S2837	FUN PROTECT	IC401	TC7S08FU (TE85R)	AMP
D2000	RD6.2M-B2	PROTECT	IC1001	EL2186CS-TE2	SIGNAL AMP
D2001	D1NS4-TR2	STEP UP	IC1002	EL2186CS-TE2	SIGNAL AMP
D2002	RD6.8M-B2	PROTECT	IC1003	EL2186CS-TE2	SIGNAL AMP
D2003	1S2837	PROTECT	IC1004	GS1881-CTA	SYNC SEPARATOR
D2004	1S2837	PROTECT	IC1006	UPC4082G2	H/V AMP
D2005	SB20-03P	PROTECT	IC1007	NJM084M-TE2	ABG DET
D2007	1S2837	OR (SIRCS)	IC1008	SN75157PS-ELL2000	SYNC RECEIVER
D2008	1S2837	OR (SIRCS)	IC1009	CXA1875AM-T4	DAC AND SW
D2009	1S2837	SIRCS OUT ENABLE SW	IC1010	NJM082BM-T1	ABL COMPARATOR
D2010	RD6.2M-B2	PROTECT	IC1011	CXA1450M	FIX VIDEO SW
D2011	RD6.2M-B2	PROTECT	IC1012	CXA1450M	FIX VIDEO SW
D2200	RD6.2ESB2	PROTECT	IC1013	CXA1450M	FIX VIDEO SW
D2201	RD6.2ESB2	PROTECT	IC1014	MAX4121CSA-TE2	TEST RGB SW
D2202	RD6.2ESB2	PROTECT	IC1015	MAX4121CSA-TE2	TEST RGB SW
D2203	RD6.2M-B2	PROTECT	IC1016	MAX4121CSA-TE2	TEST RGB SW
D2204	RD6.2M-B2	PROTECT	IC1017	CXA1875AM-T4	DAC AND SW
D2205	RD6.2M-B2	PROTECT	IC1018	CXA1875AM-T4	DAC AND SW
D2206	1S2837	OR	IC1019	UPC4082G2	COMPARATOR
D2207	RD6.8M-B2	PROTECT	IC1020	MAX4121CSA-TE2	VIDEO RGB SW
D3000	1S2837	OR	IC1021	MAX4121CSA-TE2	VIDEO RGB SW
D4007	RD6.2ESB2	PROTECT	IC1022	MAX4121CSA-TE2	VIDEO RGB SW
D4008	RD6.2ESB2	PROTECT	IC1023	TC7S04FU (TE85R)	INVERTER
D4009	RD6.2ESB2	PROTECT	IC1024	LM2990T-5.0	–5V REG
D4010	RD6.2ESB2	PROTECT	IC1025	LM7912CT	–12V REG
D4011	RD6.2ESB2	PROTECT	IC1026	TA7812CT	+12V REG
D4012	RD6.2ESB2	PROTECT	IC1027	TA7812CT	+12V REG
D4013	RD6.2ESB2	PROTECT	IC1028	LM2940CT	+5V REG
D4014	RD6.2ESB2	PROTECT	IC1029	CXA3069S	GAMMA
D4024	1S2834	PROTECT	IC1030	LM1282N	PRE AMP
D4025	RD6.2ESB2	PROTECT	IC1031	MAX8213BCSE-TE2	VOLTAGE PROT
			IC1032	NJM7809FA	+9V REG
IC1	CXA2016S	SYNC SEPARATOR	IC1033	MC74HC02AF-T2	PULSE GEN
IC2	MC74HC4538AF	SYNC GENERATOR	IC1034	TC7S66F	ABL LINK SW
IC3	SN74HC00ANS	SYNC BUFFER	IC1036	SN74HC164ANS	PULSE GEN
IC4	SN74HC157ANS	SYNC SW-1	IC1037	MAX4121CSA-TE2	RGB SW
IC5	SN74HC157ANS	SYNC SW-2	IC1038	MAX4121CSA-TE2	RGB SW

A BOARD

Function of Semiconductor (2/3)

IC1039	MAX4121CSA-TE2	RGB SW	Q27	2SC2712-YG	SYNC BUFF-4
IC1040	TL082CPS	TEST SIGNAL SW CONT	Q30	2SC2712-YG	S ON G AMP-3
IC1041	TC7S66F	TEST SIGNAL SW	Q101	2SA1162-YG	CLK AMP
IC1042	TC4W53F	TEST SIGNAL SW	Q102	2SC2712-YG	CLK BUFF-1
IC1043	TC7S32F	HD CP MIX	Q103	2SC2712-YG	VIDEO CLAMP-1
IC1044	TC7S32F	BLKG MIX	Q104	2SA1162-YG	VIDEO CLAMP-2
IC1045	TC7S32F	BLKG MIX	Q105	2SC2712-YG	VIDEO BUFF-3
IC1301	EL2160CN	AMP	Q106	2SC2712-YG	VIDEO BUFF-4
IC1401	EL2160CN	AMP	Q107	2SC2712-YG	VIDEO BUFF-2
IC1501	EL2160CN	AMP	Q108	2SC2712-YG	Y AMP-1
IC2000	TC74HC14AF (EL)	INVERTER	Q109	2SC2712-YG	Y AMP-2
IC2001	MM1170BFB	RESET (WD. TIMER)	Q110	2SC2712-YG	Y AMP-3
IC2002	CY7C136-55JC-TEL	DUAL PORT RAM	Q111	2SA1162-YG	Y BUFF-2
IC2003	CXA1875AM-T4	DAC (FOR G2 CONTROL)	Q112	2SC2712-YG	C AMP-1
IC2004	TC7S32F	BUFFER	Q113	2SC2712-YG	C AMP-2
IC2005	HD6433337WA08F	REGI MCU	Q114	2SC2712-YG	C AMP-3
IC2006	MAX762CSA-TE2	VOLTAGE STEP UP	Q115	2SA1162-YG	C BUFF-2
IC2007	TC74HC14AF (EL)	INVERTER	Q117	2SA1162-YG	CHROMA BUFFER
IC2008	SN74HC32ANS	OR	Q118	2SA1162-YG	Y BUFF
IC2009	PQ20VZ5U	5V REGULATOR	Q119	2SA1162-YG	VIDEO BUFF-2
IC2010	M27C1001-10F1	REGI ROM	Q120	2SC2712-YG	VIDEO BUFF-1
IC2011	HN58C1001P-15	EEPROM (FOR BUCK UP DATA)	Q200	2SC2712-YG	PAL-M SW-2
IC2012	SN74HC74ANS	MEMORY GUARD	Q201	DTC144EKA-T146	PAL-M SW-1
IC2013	PC74HCT08D-T	AND	Q202	2SC2712-YG	PAL-M SW-3
IC2014	TC74HC573AF (EL)	8-LATCH	Q203	2SC2712-YG	CLK BUFF-2
IC2015	HM6264BLFP-10LTZ	S-RAM	Q205	2SC2712-YG	Y BUFF-2
IC2016	M48Z30Y-100PM1	BATTERY S-RAM	Q206	2SC3545-T1T44	SECAM FILTER SW
IC2017	SN74HC139ANS	EEPROM SELECT	Q211	2SC2712-YG	B-Y BUFFER
IC2018	TC7S32F	OR	Q212	2SC2712-YG	R-Y BUFFER
IC2019	CXD108-146Q	ADDRESS DECODER ETC.	Q214	DTC144EKA-T146	SIG. SW-3
IC2020	TC7W08F	AND	Q215	DTC144EKA-T146	SIG. SW-1
IC2200	TC4W66FU	ANALOG SWITCH (SIRCS)	Q216	DTC144EKA-T146	SIG. SW-2
IC2201	TC7W241FU-TE12R	3-ST BUFFER (SIRCS)	Q217	2SA1162-G	R BUFF-1
IC2202	MC74HC4053AF	ANALOG SW (FOR G2 SELECT)	Q218	2SA1162-G	G BUFF-1
IC2203	UPC393G2	COMPARATOR (VOLTAGE DETECTOR)	Q219	2SA1162-G	B BUFF-1
IC3000	TC7W241FU-TE12R	CLAMP SELECT	Q220	2SC2712-YG	Y BUFF-1
IC3002	MB671469PF	FH/FV COUNTER	Q221	2SC2712-YG	U BUFF
IC3003	MB654842UPF	SYNC CONTROLLER	Q222	2SC2712-YG	V BUFF
IC3004	TC74HC123AF	H SYNC REFORM	Q300	2SC2712-YG	B BUFF-2
IC3005	SN74HC157ANS	SYNC SELECT	Q301	2SC2712-YG	R BUFF-2
IC3006	TC74HC123AF	V SYNC DETECT	Q302	2SC2712-YG	G BUFF-2
IC3007	TC7S66F	ANALOG SW	Q400	2SC2712-YG	R-Y BUFF
IC4000	MAX489ECSD-TE2	RS-422A TRANSCEIVER	Q401	2SC2712-YG	B-Y BUFF
IC4001	TC7W14F	INVERTER	Q402	2SC2712-YG	Y BUFF-3
IC4002	MM1170BFB	RESET (WD.TIMER)	Q406	DTC144EKA-T146	Y/U/V SW
IC4007	HD6433337WA08F	COMMUNICATION MCU	Q450	FMS1	SIGNAL LIMITTER 1
IC4008	CY7C136-55JC-TEL	DUAL PORT RAM	Q451	FMS1	SIGNAL LIMITTER 2
IC4009	SN74HC74ANS	EEPROM	Q452	FMS1	SIGNAL LIMITTER 3
IC4010	HM6264BLFP-10LTZ	S-RAM	Q1001	DTC144EKA-T146	SYNC 5V SW
IC4011	M27C512-10F1	COMM ROM	Q1002	2SC2712-YG	SYNC 5V SW
IC4012	SN74HC138ANS	ADDRESS DECODER	Q1003	2SB798-DLDK	SYNC 5V SW
IC4013	SN74HC11ANS-E05	ADDRESS DECODER	Q1004	2SA1162-YG	BUFFER
			Q1005	2SC2712-YG	BUFFER
Q24	2SA1162-YG	SYNC BUFF-2	Q1006	2SC2712-YG	BUFFER
Q25	2SC2712-YG	SYNC BUFF-1	Q1007	DTA144EKA-T146	MONITOR OUT SW
Q26	2SA1162-YG	SYNC BUFF-3	Q1008	2SA1162-YG	PEAK HOLD

A BOARD

Function of Semiconductor (3/3)

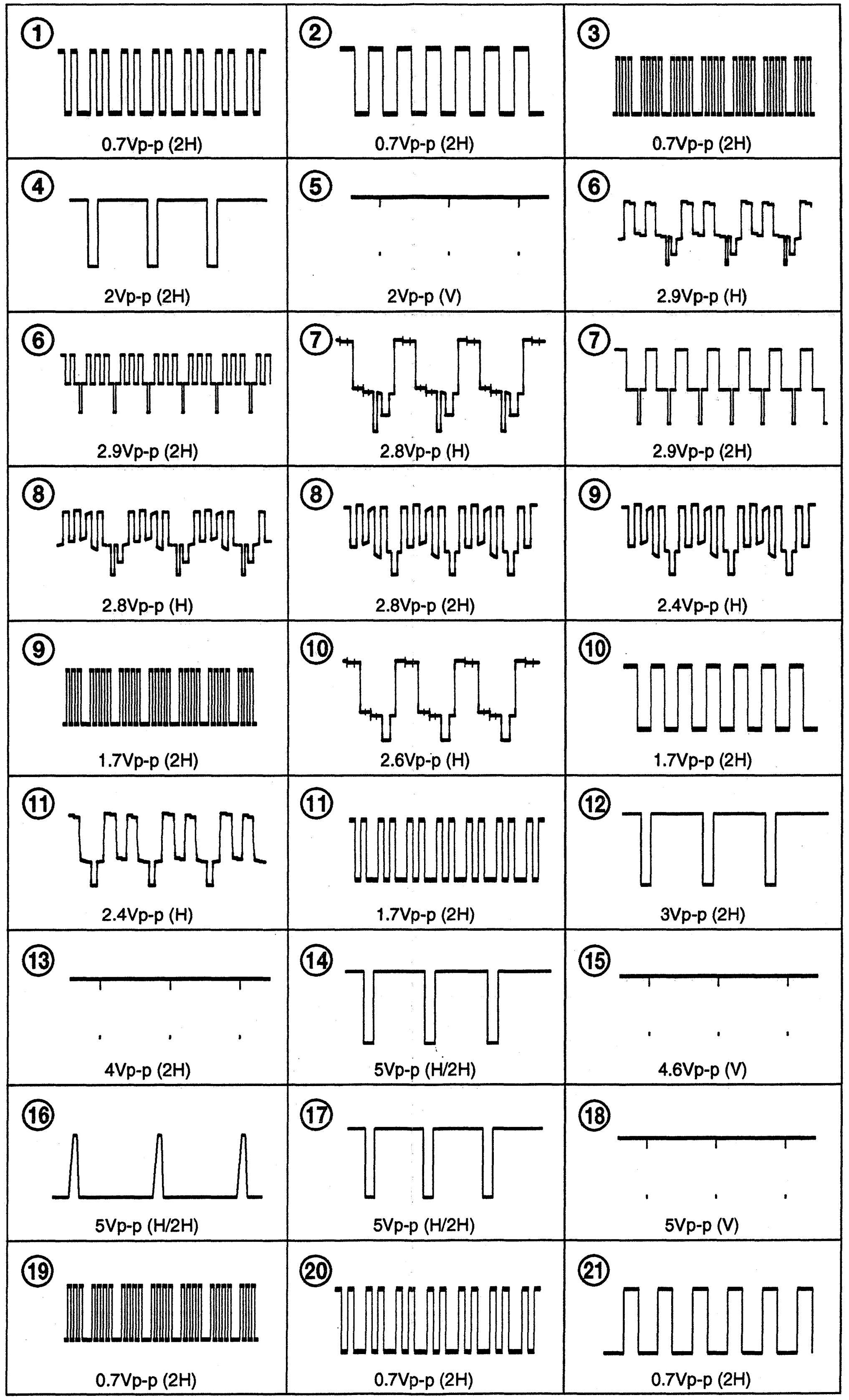
Q1009	2SC2712–YG	PEAK HOLD
Q1010	2SA1162–YG	PEAK HOLD
Q1011	2SC2712–YG	PEAK HOLD
Q1012	2SA1162–YG	BUFFER
Q1013	2SC2712–YG	BUFFER
Q1014	2SC2712–YG	BUFFER
Q1016	2SC2712–YG	TEST RGB SW
Q1017	2SC2712–YG	SINGLE ABL
Q1018	2SC1906	BUFFER
Q1019	2SC1906	BUFFER
Q1020	2SC1906	BUFFER
Q1021	DTC144EKA-T146	RGB SW
Q1022	DTC144EKA-T146	RGB EN SW
Q1024	2SC2712-YG	PEAK ABL
Q1025	2SA1162-YG	BUFFER
Q1026	2SC2712-YG	BUFFER
Q1027	2SC2712-YG	BUFFER
Q1028	2SC2712-YG	CONTRAST
Q1029	2SC2712-YG	BUFFER
Q1030	2SC2712-YG	CONTRAST
Q1031	2SC2712-YG	BUFFER
Q1032	2SC2712-YG	TOTAL ABL
Q1033	2SA1162-YG	BUFFER
Q1034	2SA1162-YG	SUB CONTRAST
Q1035	2SC2712-YG	SUB CONTRAST
Q1036	2SC2712-YG	TOTAL ABL
Q1037	TC144EKA-T146	VOLTAGE PROT
Q1038	2SC3545-T1T44	IK DET AMP
Q1039	2SC3545-T1T44	IK DET AMP
Q1040	2SC3545-T1T44	BUFFER
Q1041	2SC2712-YG	SUB CONTRAST
Q1200	DTC114EK	FUN PROT
Q1201	DTC114EK	FUN PROT
Q1202	DTC114EK	FUN PROT
Q1203	DTC144EKA-T146	FUN PROT
Q1204	2SC2712-YG	FUN DRIVE
Q1205	2SC2712-YG	FUN DRIVE
Q1315	2SC3950-E	BUFFER
Q1316	2SC1906	CURRENT SOURCE
Q1415	2SC3950-E	BUFFER
Q1416	2SC1906	CURRENT SOURCE
Q1515	2SC3950-E	BUFFER
Q1516	2SC1906	CURRENT SOURCE
Q2000	2SC2712-YG	BUS SWITCH
Q2001	2SC2712-YG	BUS SWITCH
Q2002	DTC144EKA-T146	REG. ENABLE SWITCH
Q2003	DTC144EKA-T146	BUFFER (INV.)
Q2004	DTC144EKA-T146	BUFFER (INV.)
Q2005	DTC144EKA-T146	BUFFER (INV.)
Q2006	2SC2712-YG	BUFFER
Q2200	2SC2712-YG	INVERTER
Q4003	2SC2712-YG	BUS SWITCH
Q4004	2SC2712-YG	BUS SWITCH

BH BOARD

Function of Semiconductor

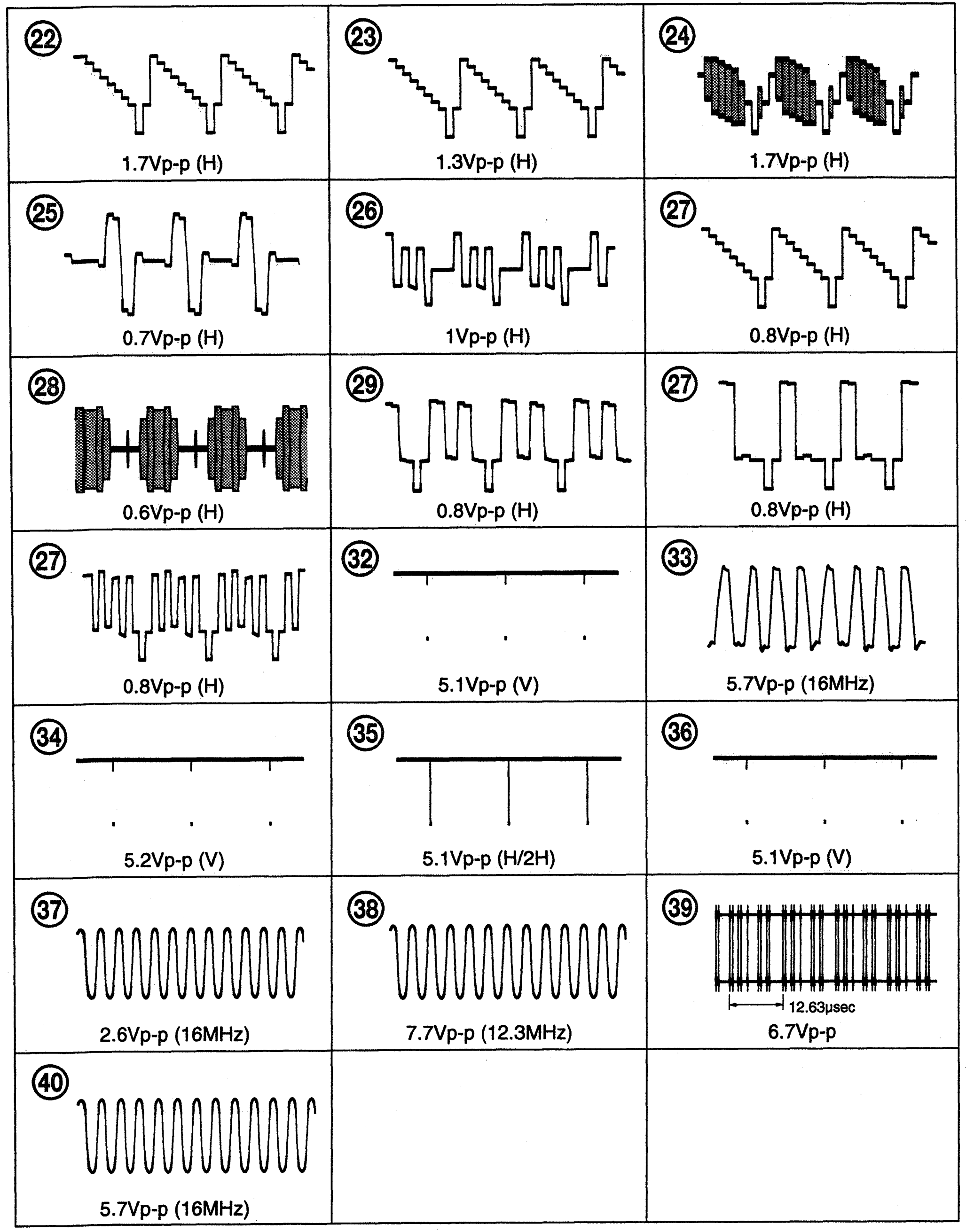
IC1	TC4W53FU	SWITCH

A Board Waveforms (1/2)



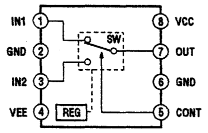
① 0.7Vp-p (2H)
② 0.7Vp-p (2H)
③ 0.7Vp-p (2H)
④ 2Vp-p (2H)
⑤ 2Vp-p (V)
⑥ 2.9Vp-p (H)
⑥ 2.9Vp-p (2H)
⑦ 2.8Vp-p (H)
⑦ 2.9Vp-p (2H)
⑧ 2.8Vp-p (H)
⑧ 2.8Vp-p (2H)
⑨ 2.4Vp-p (H)
⑨ 1.7Vp-p (2H)
⑩ 2.6Vp-p (H)
⑩ 1.7Vp-p (2H)
⑪ 2.4Vp-p (H)
⑪ 1.7Vp-p (2H)
⑫ 3Vp-p (2H)
⑬ 4Vp-p (2H)
⑭ 5Vp-p (H/2H)
⑮ 4.6Vp-p (V)
⑯ 5Vp-p (H/2H)
⑰ 5Vp-p (H/2H)
⑱ 5Vp-p (V)
⑲ 0.7Vp-p (2H)
⑳ 0.7Vp-p (2H)
㉑ 0.7Vp-p (2H)

A Board Waveforms (2/2)

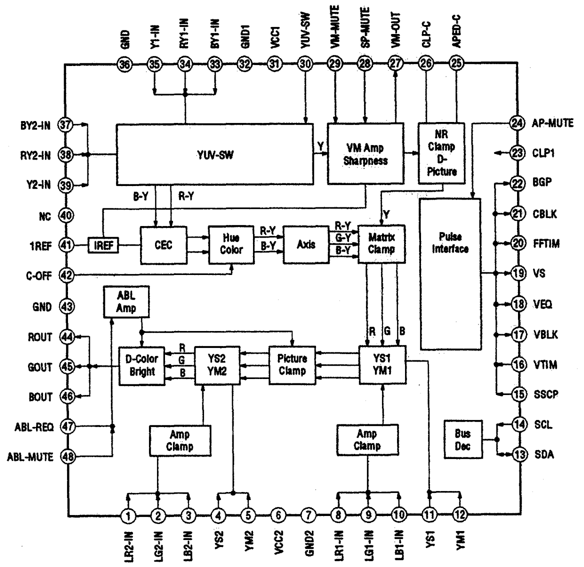


A Board IC Block Diagrams

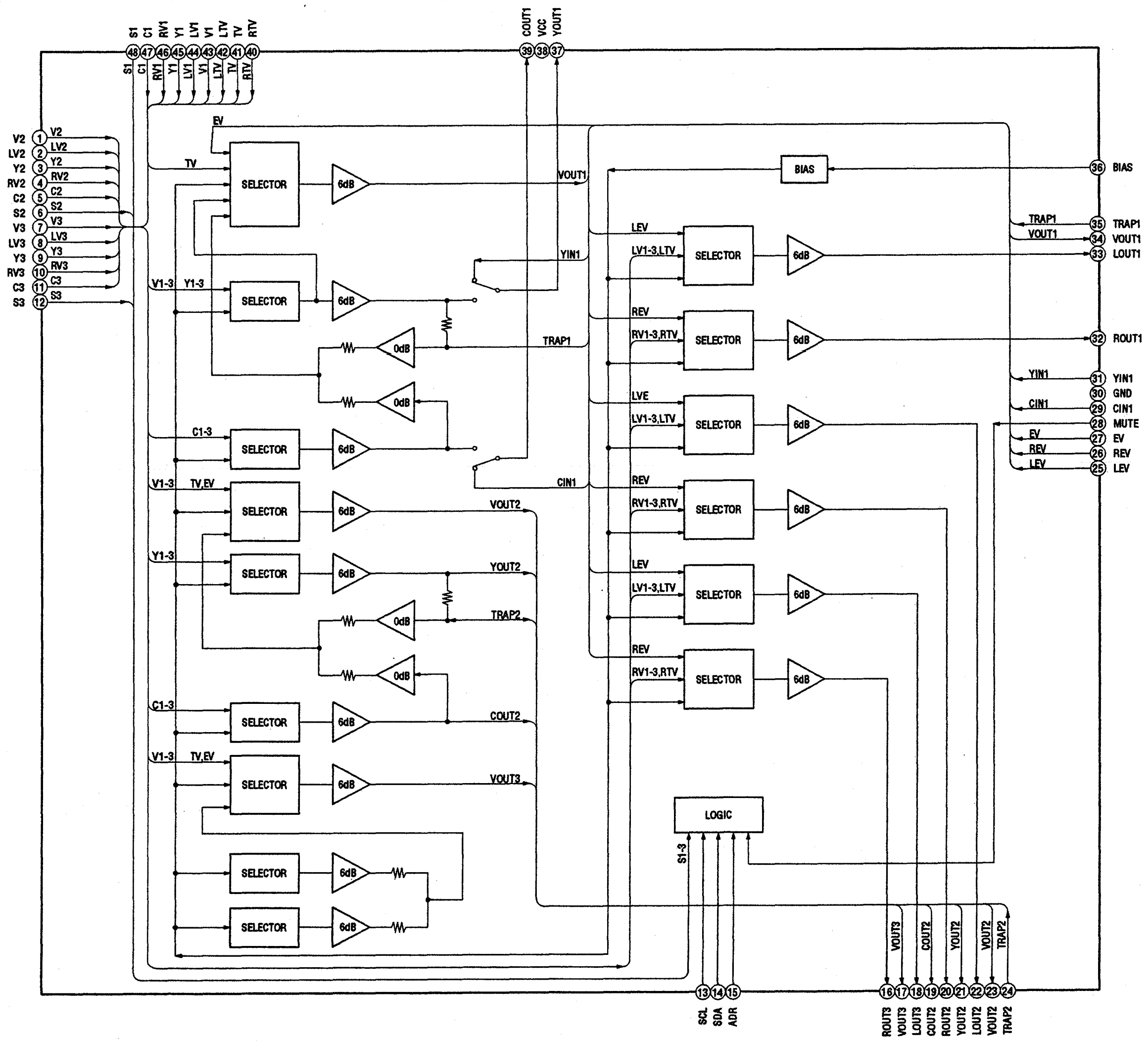
CXA1450M
(IC1011-1013, 207-209)


IN1
GND
IN2
VEE
SW
REG
VCC
OUT
GND
CONT

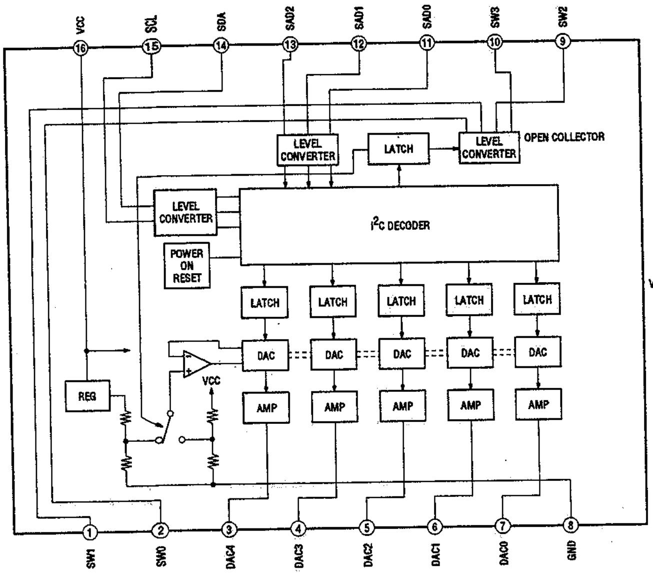
CXA1839Q (IC400)


GND
Y1-IN
RY1-IN
BY1-IN
GND1
VCC1
YUV-SW
VM-MUTE
SP-MUTE
VM-OUT
CLP-C
APED-C
BY2-IN
RY2-IN
Y2-IN
NC
1REF
C-OFF
GND
ROUT
GOUT
BOUT
ABL-REQ
ABL-MUTE
AP-MUTE
CLP1
BGP
CBLK
FFTIM
VS
VEQ
VBLK
VTIM
SSCP
SCL
SDA
YUV-SW
VM Amp Sharpness
NR Clamp D-Picture
B-Y
R-Y
IREF
CEC
Hue Color
Axis
Matrix Clamp
Pulse Interface
ABL Amp
D-Color Bright
YS2 YM2
Picture Clamp
YS1 YM1
Amp Clamp
Amp Clamp
Bus Dec
LR2-IN
LG2-IN
LB2-IN
YS2
YM2
VCC2
GND2
LR1-IN
LG1-IN
LB1-IN
YS1
YM1

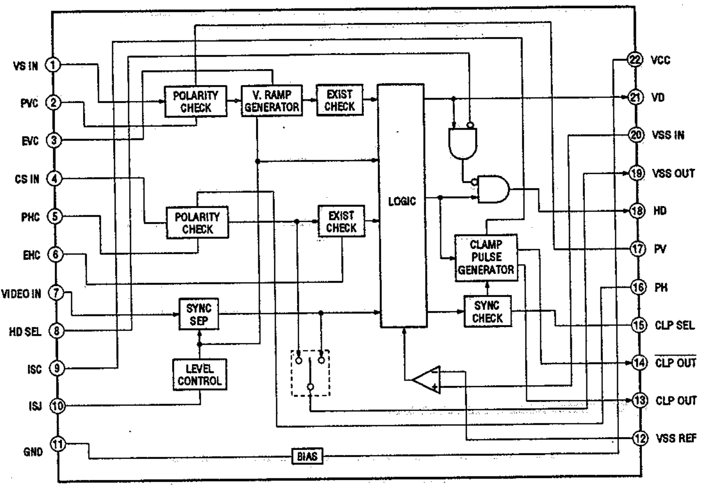
CXA1855Q (IC103)


S1
C1
RV1
Y1
LV1
V1
LTV
TV
RTV
COUT1
VCC
YOUT1
V2
LV2
Y2
RV2
C2
S2
V3
LV3
Y3
RV3
C3
S3
BIAS
TRAP1
VOUT1
LOUT1
ROUT1
YIN1
GND
CIN1
MUTE
EV
REV
LEV
SELECTOR
6dB
0dB
LOGIC
S1-3
SCL
SDA
ADR
ROUT3
VOUT3
LOUT3
COUT2
ROUT2
YOUT2
LOUT2
VOUT2
TRAP2

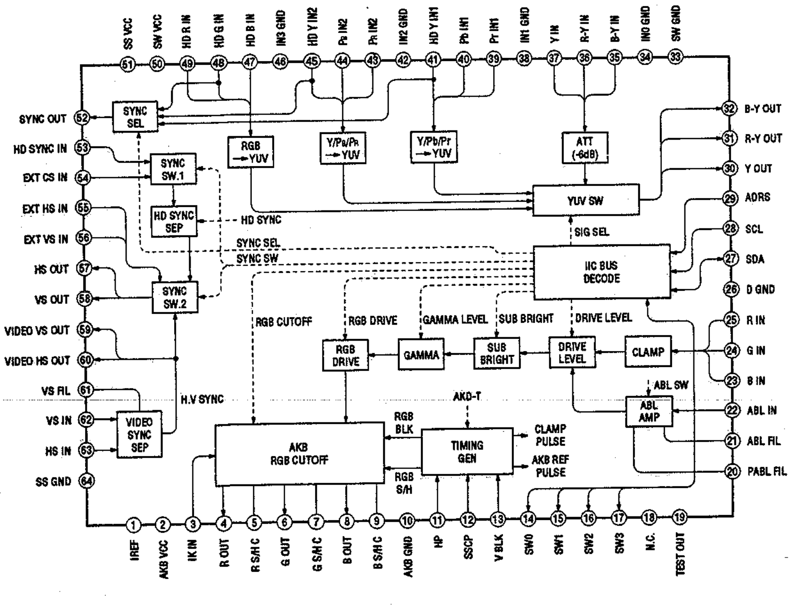
CXA1875AM (IC1009, 7017, 1018)


VCC
SCL
SDA
SAD2
SAD1
SAD0
SW3
SW2
⑯
⑮
⑭
⑬
⑫
⑪
⑩
⑨
LEVEL CONVERTER
LATCH
LEVEL CONVERTER
OPEN COLLECTOR
LEVEL CONVERTER
I²C DECODER
POWER ON RESET
LATCH
LATCH
LATCH
LATCH
LATCH
DAC
DAC
DAC
DAC
DAC
VCC
REG
AMP
AMP
AMP
AMP
AMP
①
②
③
④
⑤
⑥
⑦
⑧
SW1
SW0
DAC4
DAC3
DAC2
DAC1
DAC0
GND

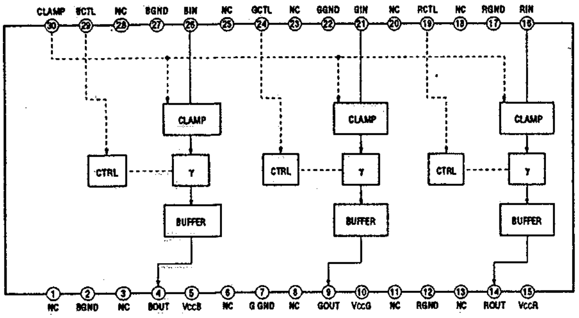
CXA2016S (IC1)


VS IN ①
PVC ②
EVC ③
CS IN ④
PHC ⑤
EHC ⑥
VIDEO IN ⑦
HD SEL ⑧
ISC ⑨
ISJ ⑩
GND ⑪
POLARITY CHECK
V. RAMP GENERATOR
EXIST CHECK
LOGIC
POLARITY CHECK
EXIST CHECK
CLAMP PULSE GENERATOR
SYNC SEP
SYNC CHECK
LEVEL CONTROL
BIAS
㉒ VCC
㉑ VD
⑳ VSS IN
⑲ VSS OUT
⑱ HD
⑰ PV
⑯ PH
⑮ CLP SEL
⑭ CLP OUT
⑬ CLP OUT
⑫ VSS REF

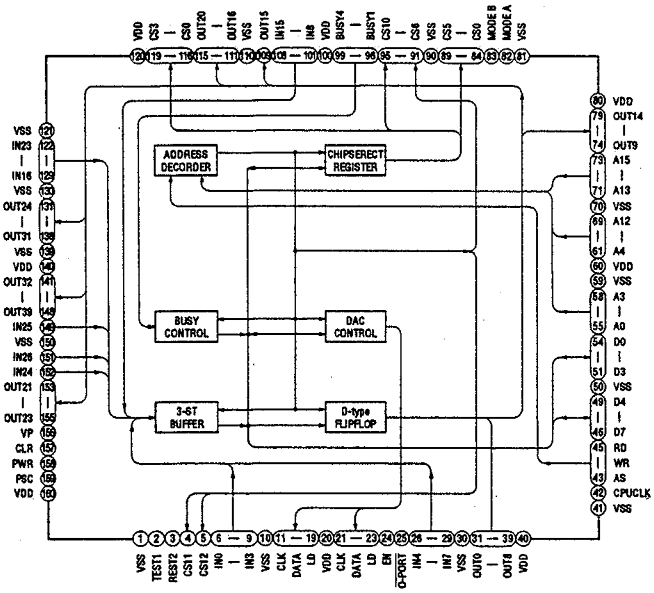
CXA2011Q (IC300)


SS VCC
SW VCC
HD R IN
HD G IN
HD B IN
IN3 GND
HD Y IN2
Pb IN2
Pr IN2
IN2 GND
HD Y IN1
Pb IN1
Pr IN1
IN1 GND
Y IN
R-Y IN
B-Y IN
IN0 GND
SW GND
(51) ㊿ ㊾ ㊽ ㊼ ㊻ ㊺ ㊹ ㊸ ㊷ ㊶ ㊵ ㊴ ㊳ ㊲ ㊱ ㉟ ㉞ ㉝
SYNC OUT (52)
HD SYNC IN (53)
EXT CS IN (54)
EXT HS IN (55)
EXT VS IN (56)
HS OUT (57)
VS OUT (58)
VIDEO VS OUT (59)
VIDEO HS OUT (60)
VS FIL (61)
VS IN (62)
HS IN (63)
SS GND (64)
SYNC SEL
SYNC SW.1
HD SYNC SEP
SYNC SW.2
VIDEO SYNC SEP
RGB → YUV
Y/Pb/Pr → YUV
Y/Pb/Pr → YUV
ATT (-6dB)
YUV SW
SIG SEL
HD SYNC
SYNC SEL
SYNC SW
IIC BUS DECODE
RGB CUTOFF
RGB DRIVE
GAMMA LEVEL
SUB BRIGHT
DRIVE LEVEL
RGB DRIVE
GAMMA
SUB BRIGHT
DRIVE LEVEL
CLAMP
ABL SW
ABL AMP
H.V SYNC
AKD-T
AKB RGB CUTOFF
RGB BLK
RGB S/H
TIMING GEN
CLAMP PULSE
AKB REF PULSE
㉜ B-Y OUT
㉛ R-Y OUT
㉚ Y OUT
㉙ ADRS
㉘ SCL
㉗ SDA
㉖ D GND
㉕ R IN
㉔ G IN
㉓ B IN
㉒ ABL IN
㉑ ABL FIL
⑳ PABL FIL
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲
IREF
AKB VCC
IK IN
R OUT
R S/H C
G OUT
G S/H C
B OUT
B S/H C
AKB GND
HP
SSCP
V BLK
SW0
SW1
SW2
SW3
N.C.
TEST OUT

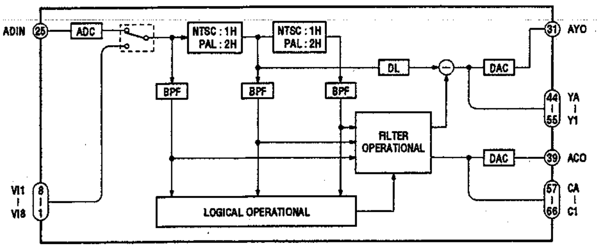
CXA3069S (IC1029)


CLAMP 30
BCTL 29
NC 28
BGND 27
BIN 26
NC 25
GCTL 24
NC 23
GGND 22
GIN 21
NC 20
RCTL 19
NC 18
RGND 17
RIN 16
CLAMP
CTRL
γ
BUFFER
1 NC
2 BGND
3 NC
4 BOUT
5 VccB
6 NC
7 G GND
8 NC
9 GOUT
10 VccG
11 NC
12 RGND
13 NC
14 ROUT
15 VccR

CXD108-146Q (IC2019)

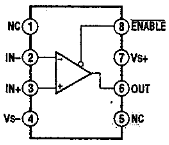

VDD 120
CS3 – CS0 119 – 116
OUT20 – OUT16 115 – 111
VSS 110
OUT15 109
IN15 – IN8 108 – 101
VDD 100
BUSY4 – BUSY1 99 – 96
CS10 – CS6 95 – 91
VSS 90
CS5 – CS0 89 – 84
MODE B 83
MODE A 82
VSS 81
VDD 80
OUT14 – OUT9 79 – 74
A15 – A13 73 – 71
VSS 70
A12 – A4 69 – 61
VDD 60
VSS 59
A3 – A0 58 – 55
D0 – D3 54 – 51
VSS 50
D4 – D7 49 – 46
RD 45
WR 44
AS 43
CPUCLK 42
VSS 41
VSS 121
IN23 – IN16 122 – 129
VSS 130
OUT24 – OUT31 131 – 138
VSS 139
VDD 140
OUT32 – OUT39 141 – 148
IN25 149
VSS 150
IN26 151
IN24 152
OUT21 – OUT23 153 – 155
VP 156
CLR 157
PWR 158
PSC 159
VDD 160
ADDRESS DECORDER
CHIPSERECT REGISTER
BUSY CONTROL
DAC CONTROL
3-ST BUFFER
D-type FLIPFLOP
1 VSS
2 TEST1
3 REST2
4 CS11
5 CS12
6 – 9 IN0 – IN3
10 VSS
11 – 19 CLK DATA LD
20 VDD
21 – 23 CLK DATA LD
24 EN
25 O-PORT
26 – 29 IN4 – IN7
30 VSS
31 – 39 OUT0 – OUT8
40 VDD

CXD2024AQ (IC102)

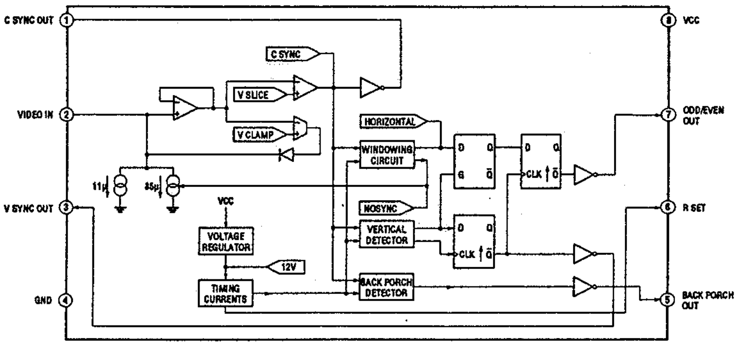

ADIN 25
ADC
NTSC : 1H
PAL : 2H
NTSC : 1H
PAL : 2H
BPF
BPF
BPF
DL
DAC
FILTER OPERATIONAL
DAC
LOGICAL OPERATIONAL
31 AYO
44 – 55 YA – Y1
39 ACO
57 – 66 CA – C1
VI1 – VI8 8 – 1

EL2186C

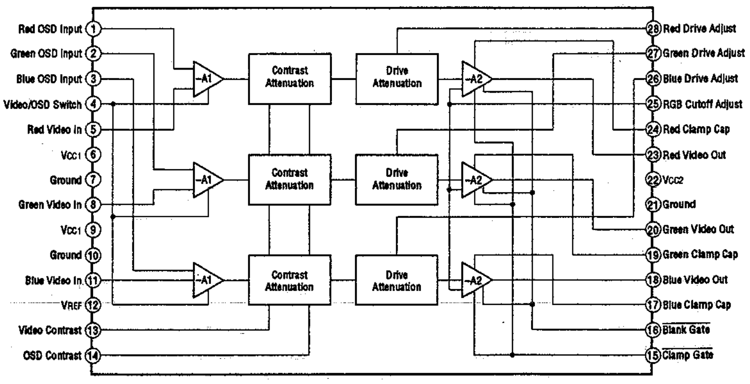
(IC1001-1003)


NC 1
IN- 2
IN+ 3
Vs- 4
8 ENABLE
7 Vs+
6 OUT
5 NC

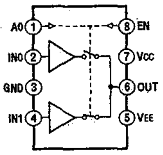
GS1881-CTA (IC1004)


C SYNC OUT 1
VIDEO IN 2
V SYNC OUT 3
GND 4
8 VCC
7 ODD/EVEN OUT
6 R SET
5 BACK PORCH OUT
C SYNC
V SLICE
V CLAMP
HORIZONTAL
WINDOWING CIRCUIT
NOSYNC
VERTICAL DETECTOR
BACK PORCH DETECTOR
VCC
VOLTAGE REGULATOR
12V
TIMING CURRENTS
11μ
35μ
D Q
G Q̄
D Q
CLK Q̄
D Q
CLK Q̄

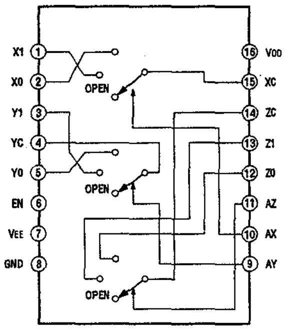
LM1282N (IC1030)


Red OSD Input 1
Green OSD Input 2
Blue OSD Input 3
Video/OSD Switch 4
Red Video In 5
Vcc1 6
Ground 7
Green Video In 8
Vcc1 9
Ground 10
Blue Video In 11
VREF 12
Video Contrast 13
OSD Contrast 14
28 Red Drive Adjust
27 Green Drive Adjust
26 Blue Drive Adjust
25 RGB Cutoff Adjust
24 Red Clamp Cap
23 Red Video Out
22 Vcc2
21 Ground
20 Green Video Out
19 Green Clamp Cap
18 Blue Video Out
17 Blue Clamp Cap
16 Blank Gate
15 Clamp Gate
-A1
Contrast Attenuation
Drive Attenuation
-A2

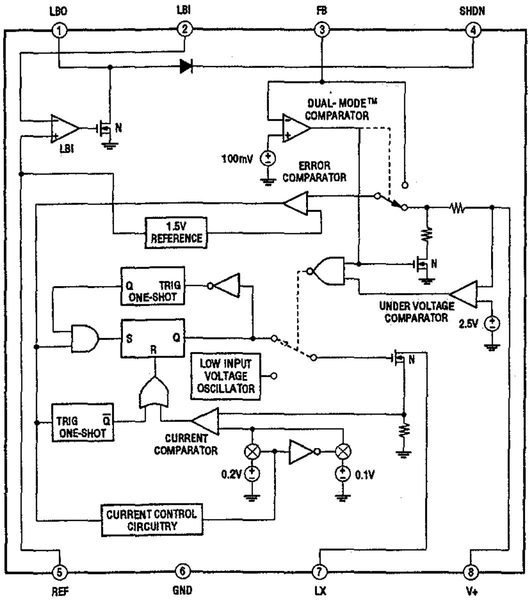
MAX4121CSA
(IC1014-1016, 1020-1022, 1037-1039)


A0 1
IN0 2
GND 3
IN1 4
8 EN
7 Vcc
6 OUT
5 VEE

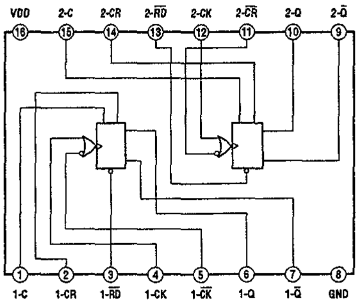
MC74HC4053F (IC206)
TC74HC4053AF (IC2202)


X1 1
X0 2
Y1 3
YC 4
Y0 5
EN 6
VEE 7
GND 8
16 VDD
15 XC
14 ZC
13 Z1
12 Z0
11 AZ
10 AX
9 AY
OPEN
OPEN
OPEN

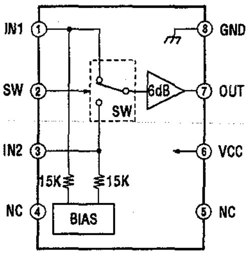
MAX762CSA (IC2006)


LBO 1
LBI 2
FB 3
SHDN 4
N
LBI
DUAL- MODE™ COMPARATOR
100mV
ERROR COMPARATOR
1.5V REFERENCE
N
Q TRIG ONE-SHOT
UNDER VOLTAGE COMPARATOR
2.5V
S Q R
N
LOW INPUT VOLTAGE OSCILLATOR
TRIG $\overline{Q}$ ONE-SHOT
CURRENT COMPARATOR
0.2V
0.1V
CURRENT CONTROL CIRCUITRY
5 REF
6 GND
7 LX
8 V+

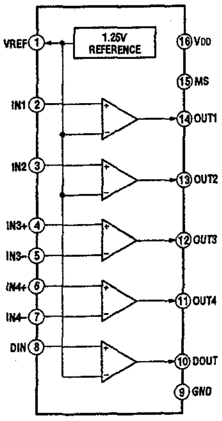
MC74HC4538AF (IC2)


VDD 16
2-C 15
2-CR 14
2-$\overline{RD}$ 13
2-CK 12
2-$\overline{CR}$ 11
2-Q 10
2-$\overline{Q}$ 9
1 1-C
2 1-CR
3 1-$\overline{RD}$
4 1-CK
5 1-$\overline{CK}$
6 1-Q
7 1-$\overline{Q}$
8 GND

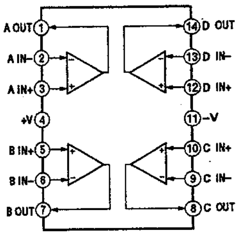
MM1112XFF (IC202, 204)


IN1 1
SW 2
IN2 3
NC 4
8 GND
7 OUT
6 VCC
5 NC
6dB
SW
15K
15K
BIAS

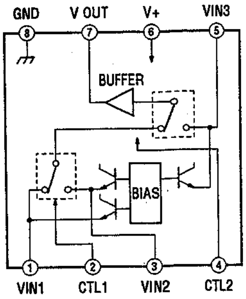
MAX8213 (IC1031)


VREF 1
1.25V REFERENCE
16 VDD
15 MS
IN1 2
14 OUT1
IN2 3
13 OUT2
IN3+ 4
IN3- 5
12 OUT3
IN4+ 6
IN4- 7
11 OUT4
DIN 8
10 DOUT
9 GND

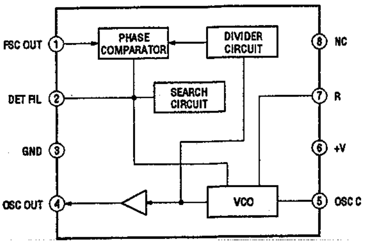
NJM084M (IC1007)


A OUT 1
A IN– 2
A IN+ 3
+V 4
B IN+ 5
B IN– 6
B OUT 7
14 D OUT
13 D IN–
12 D IN+
11 –V
10 C IN+
9 C IN–
8 C OUT

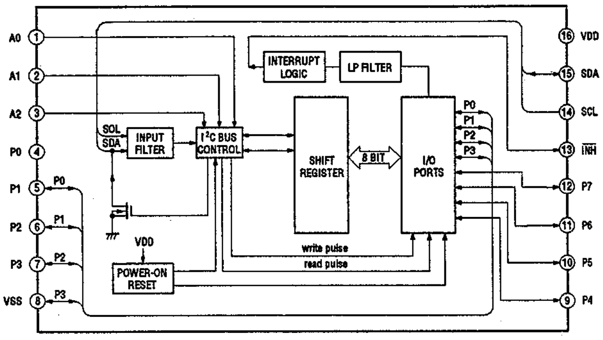
NJM2235M (IC101)


GND
V OUT
V+
VIN3
8
7
6
5
BUFFER
BIAS
1
2
3
4
VIN1
CTL1
VIN2
CTL2

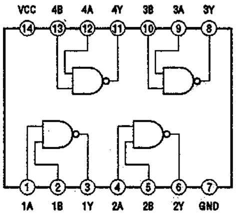
NJM2240M (IC100)


FSC OUT 1
DET FIL 2
GND 3
OSC OUT 4
8 NC
7 R
6 +V
5 OSC C
PHASE COMPARATOR
DIVIDER CIRCUIT
SEARCH CIRCUIT
VCO

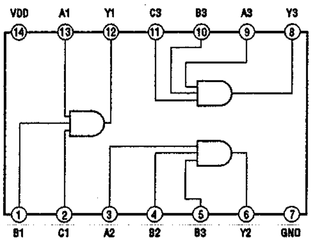
PCF8574T (IC6, 7)


A0 1
A1 2
A2 3
P0 4
P1 5
P2 6
P3 7
VSS 8
16 VDD
15 SDA
14 SCL
13 $\overline{\text{INH}}$
12 P7
11 P6
10 P5
9 P4
P0
P1
P2
P3
INTERRUPT LOGIC
LP FILTER
SOL
SDA
INPUT FILTER
I²C BUS CONTROL
SHIFT REGISTER
8 BIT
I/O PORTS
P0
P1
P2
P3
VDD
POWER-ON RESET
write pulse
read pulse

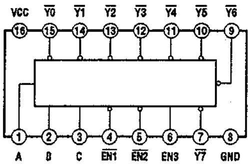
SN74HC00ANS (IC3)


VCC 14
4B 13
4A 12
4Y 11
3B 10
3A 9
3Y 8
1A 1
1B 2
1Y 3
2A 4
2B 5
2Y 6
GND 7

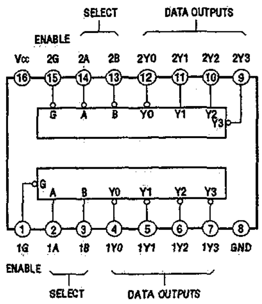
SN74HC11ANS (IC4013)


VDD 14
A1 13
Y1 12
C3 11
B3 10
A3 9
Y3 8
B1 1
C1 2
A2 3
B2 4
B3 5
Y2 6
GND 7

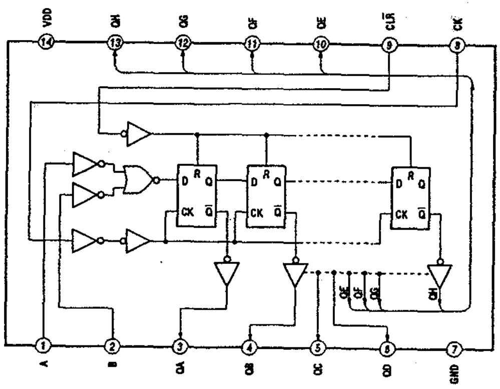
SN74HC138ANS (IC4012)


VCC 16
$\overline{\text{Y0}}$ 15
$\overline{\text{Y1}}$ 14
$\overline{\text{Y2}}$ 13
$\overline{\text{Y3}}$ 12
$\overline{\text{Y4}}$ 11
$\overline{\text{Y5}}$ 10
$\overline{\text{Y6}}$ 9
A 1
B 2
C 3
$\overline{\text{EN1}}$ 4
$\overline{\text{EN2}}$ 5
EN3 6
$\overline{\text{Y7}}$ 7
GND 8

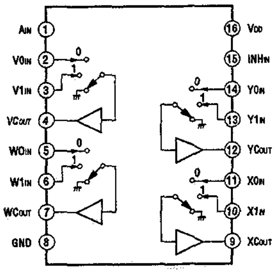
SN74HC139ANS (IC2017)


SELECT
DATA OUTPUTS
ENABLE
Vcc 2G 2A 2B 2Y0 2Y1 2Y2 2Y3
G A B Y0 Y1 Y2 Y3
G A B Y0 Y1 Y2 Y3
1G 1A 1B 1Y0 1Y1 1Y2 1Y3 GND
ENABLE
SELECT
DATA OUTPUTS

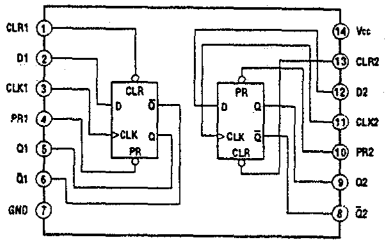
SN74HC164ANS (IC1036)


VDD QH QG QF QE CLR CK
D R Q
CK Q̄
QE QF QG QH
A B QA QB QC QD GND

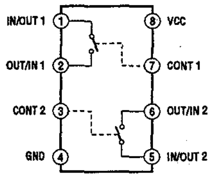
SN74HC157ANS
(IC4, 5, 8, 3005)


AIN
V0IN
V1IN
VCOUT
W0IN
W1IN
WCOUT
GND
VDD
INHIN
Y0IN
Y1IN
YCOUT
X0IN
X1IN
XCOUT
0
1

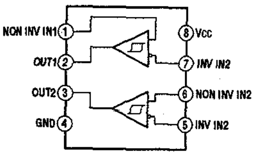
SN74HC74ANS (IC2012, 4009)


CLR1
D1
CLK1
PR1
Q1
Q̄1
GND
Vcc
CLR2
D2
CLK2
PR2
Q2
Q̄2
CLR
D Q̄
CLK Q
PR
PR
D Q
CLK Q̄
CLR

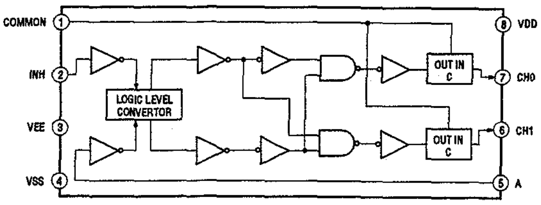
TC4W66FU
(IC2200)


IN/OUT 1
OUT/IN 1
CONT 2
GND
VCC
CONT 1
OUT/IN 2
IN/OUT 2

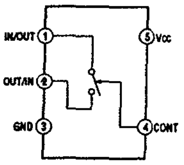
SN75157 (IC1008)


NON INV IN1
OUT1
OUT2
GND
Vcc
INV IN2
NON INV IN2
INV IN2

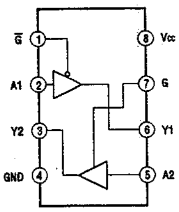
TC4W53F (IC1042)


COMMON
INH
VEE
VSS
VDD
CH0
CH1
A
LOGIC LEVEL CONVERTOR
OUT IN
C
OUT IN
C

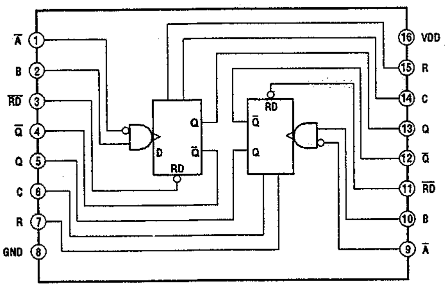
TC7S66F
(IC1034, 1041, 3007)


IN/OUT
OUT/IN
GND
Vcc
CONT

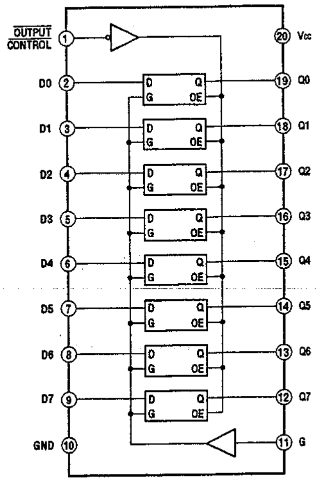
TC7W241FU (IC2201, 3000)


G̅ ①
A1 ②
Y2 ③
GND ④
⑧ Vcc
⑦ G
⑥ Y1
⑤ A2

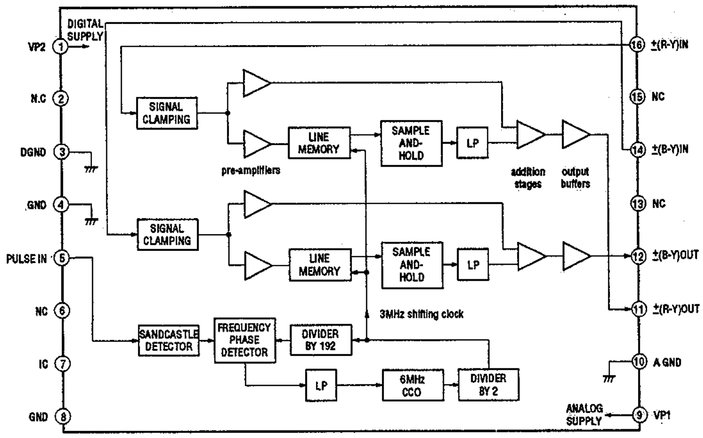
TC74HC123AF (IC3004, 3006)


A̅ ①
B ②
R̅D̅ ③
Q̅ ④
Q ⑤
C ⑥
R ⑦
GND ⑧
⑯ VDD
⑮ R
⑭ C
⑬ Q
⑫ Q̅
⑪ R̅D̅
⑩ B
⑨ A̅
D
Q
Q̅
RD
Q̅
Q
RD

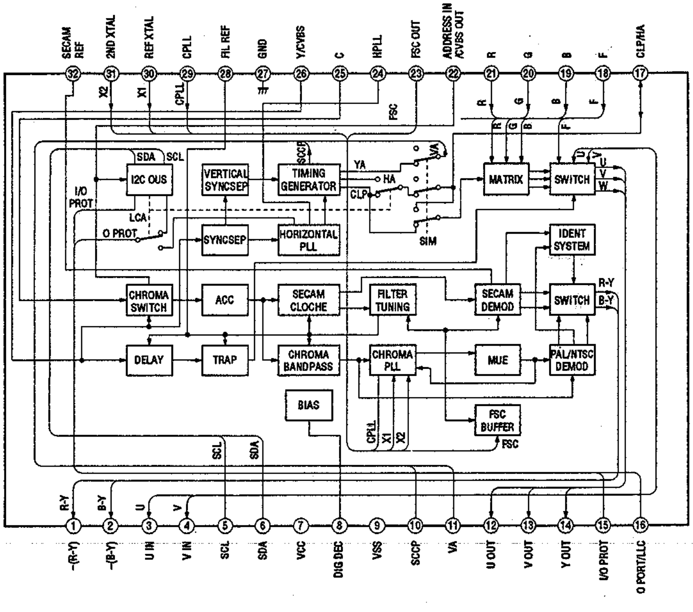
TC74HC573AF (IC2014)


OUTPUT CONTROL ①
D0 ②
D1 ③
D2 ④
D3 ⑤
D4 ⑥
D5 ⑦
D6 ⑧
D7 ⑨
GND ⑩
⑳ Vcc
⑲ Q0
⑱ Q1
⑰ Q2
⑯ Q3
⑮ Q4
⑭ Q5
⑬ Q6
⑫ Q7
⑪ G
D
Q
G
OE

TDA4665T (IC201)

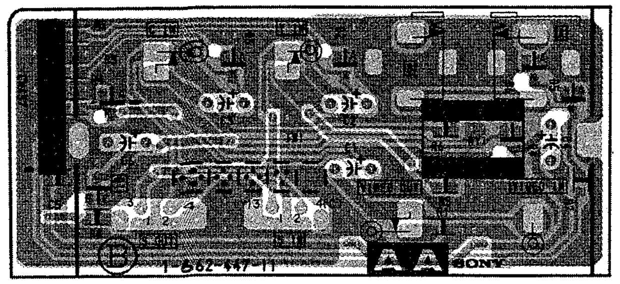

DIGITAL SUPPLY
VP2 ①
N.C ②
DGND ③
GND ④
PULSE IN ⑤
NC ⑥
IC ⑦
GND ⑧
⑯ ±(R-Y)IN
⑮ NC
⑭ ±(B-Y)IN
⑬ NC
⑫ ±(B-Y)OUT
⑪ ±(R-Y)OUT
⑩ A GND
⑨ VP1
ANALOG SUPPLY
SIGNAL CLAMPING
SIGNAL CLAMPING
LINE MEMORY
LINE MEMORY
SAMPLE AND-HOLD
SAMPLE AND-HOLD
LP
LP
pre-amplifiers
addition stages
output buffers
3MHz shifting clock
SANDCASTLE DETECTOR
FREQUENCY PHASE DETECTOR
DIVIDER BY 192
LP
6MHz CCO
DIVIDER BY 2

TDA9141-N2C (IC200)


SECAM REF ㉜
2ND XTAL ㉛
REF XTAL ㉚
CPLL ㉙
FIL REF ㉘
GND ㉗
Y/CVBS ㉖
C ㉕
HPLL ㉔
FSC OUT ㉓
ADDRESS IN /CVBS OUT ㉒
R ㉑
G ⑳
B ⑲
F ⑱
CLP/HA ⑰
X2
X1
CPLL
FSC
R
G
B
F
SDA
SCL
I2C OUS
I/O PROT
LCA
O PROT
VERTICAL SYNCSEP
SYNCSEP
TIMING GENERATOR
SCCP
HORIZONTAL PLL
YA
HA
CLP
VA
SIM
MATRIX
SWITCH
U
V
W
IDENT SYSTEM
CHROMA SWITCH
ACC
SECAM CLOCHE
FILTER TUNING
SECAM DEMOD
SWITCH
R-Y
B-Y
DELAY
TRAP
CHROMA BANDPASS
CHROMA PLL
MUE
PAL/NTSC DEMOD
BIAS
FSC BUFFER
FSC
CPLL
X1
X2
SCL
SDA
R-Y
B-Y
U
V
① –(R-Y)
② –(B-Y)
③ U IN
④ V IN
⑤ SCL
⑥ SDA
⑦ VCC
⑧ DIG DEC
⑨ VSS
⑩ SCCP
⑪ VA
⑫ U OUT
⑬ V OUT
⑭ Y OUT
⑮ I/O PROT
⑯ O PORT/LLC

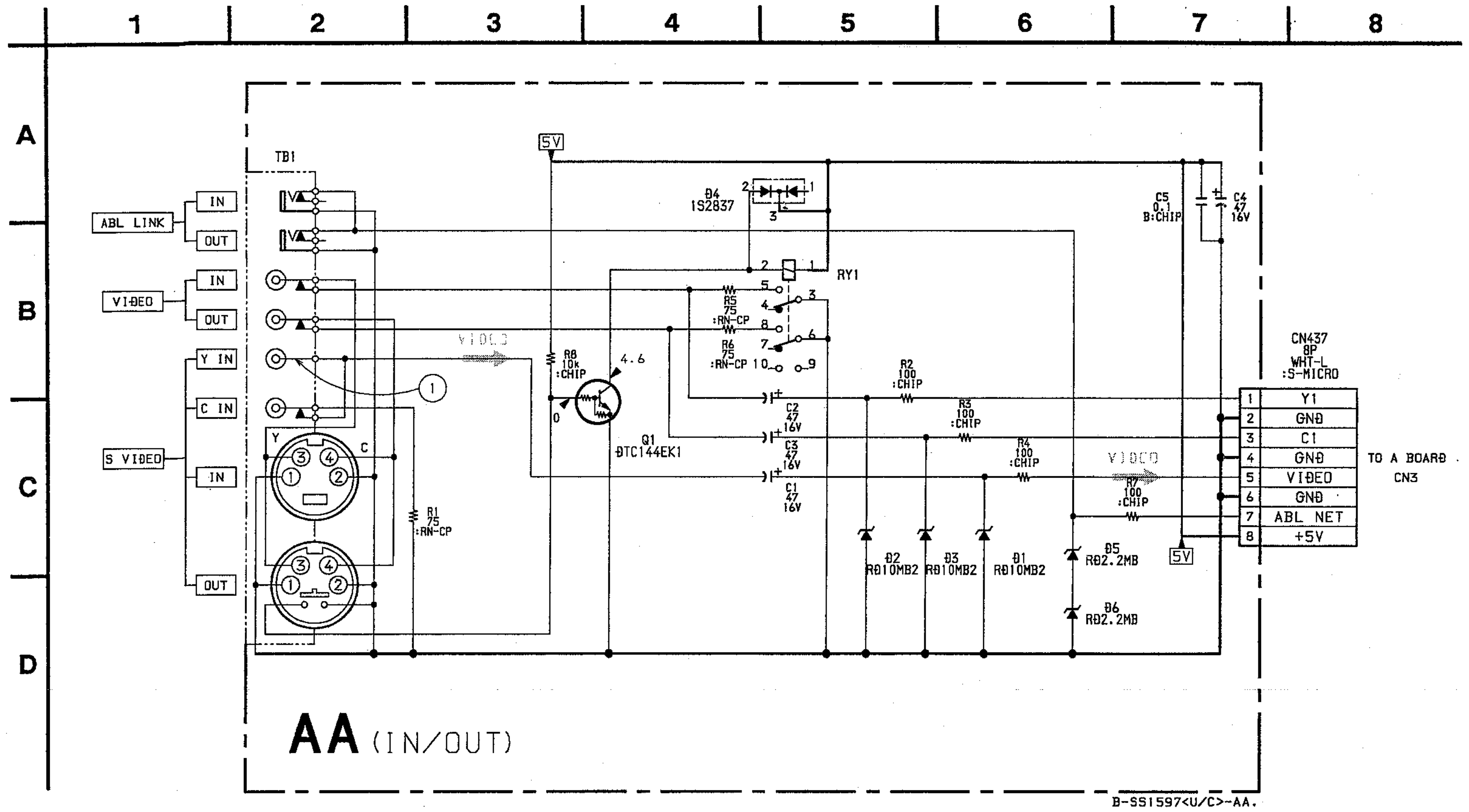
AA (IN/OUT) BOARD

— AA BOARD — <Conductor side>


B
1-662-447-11
AA
SONY

- ▨ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side.

• AA (IN/OUT) DIAGRAM

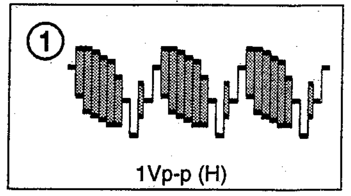

1
2
3
4
5
6
7
8
A
B
C
D
TB1
ABL LINK
IN
OUT
VIDEO
IN
OUT
Y IN
C IN
S VIDEO
IN
OUT
Y
C
①
R1
75
:RN-CP
VIDEO
5V
R8
10k
:CHIP
4.6
0
Q1
DTC144EK1
D4
1S2837
RY1
R5
75
:RN-CP
R6
75
:RN-CP
C2
47
16V
C3
47
16V
C1
47
16V
R2
100
:CHIP
R3
100
:CHIP
R4
100
:CHIP
R7
100
:CHIP
D2
RD10MB2
D3
RD10MB2
D1
RD10MB2
D5
RD2.2MB
D6
RD2.2MB
C5
0.1
B:CHIP
C4
47
16V
5V
CN437
8P
WHT-L
:S-MICRO
1 Y1
2 GND
3 C1
4 GND
5 VIDEO
6 GND
7 ABL NET
8 +5V
TO A BOARD CN3
AA (IN/OUT)
B-SS1597<U/C>-AA.

AA BOARD

Function of Semiconductor

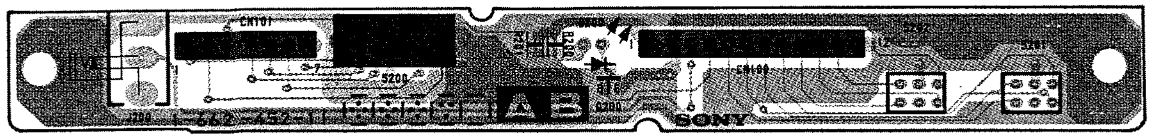
D1	RD10M-B2	PROTECT
D2	RD10M-B2	PROTECT
D3	RD10M-B2	PROTECT
D4	1S2837	PROTECT
D5	RD2.2M-T1B	PROTECT
D6	RD2.2M-T1B	PROTECT
Q1	DTC144EKA-T146	RELAY DRIVE

AA Board Waveform



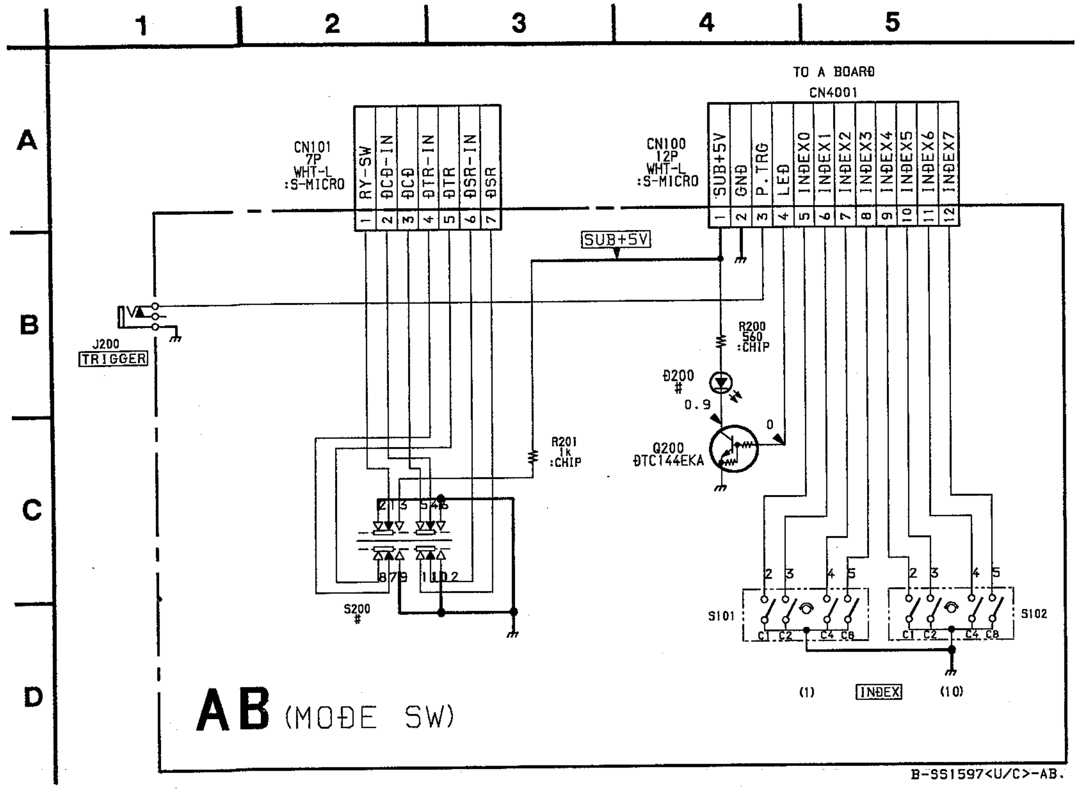
AB (MODE SWITCH) BOARD

— AB BOARD — <Conductor side>


CN101
CN100
S200
J200
AB
SONY

- ▨ : Pattern from the side which enables seeing.
- ▩ : Pattern of the rear side.

• AB (MODE SWITCH) DIAGRAM


1
2
3
4
5
A
B
C
D
TO A BOARD
CN4001
CN101
7P
WHT-L
:S-MICRO
RY-SW
ΘCD-IN
ΘCD
DTR-IN
ΘTR
ΘSR-IN
ΘSR
CN100
12P
WHT-L
:S-MICRO
SUB+5V
GND
P.TRG
LED
INDEX0
INDEX1
INDEX2
INDEX3
INDEX4
INDEX5
INDEX6
INDEX7
SUB+5V
J200
TRIGGER
R200
560
:CHIP
D200
0.9
R201
1k
:CHIP
Q200
DTC144EKA
0
S200
S101
S102
(1)
INDEX
(10)
AB (MODE SW)
B-SS1597<U/C>-AB.

AB BOARD

Function of Semiconductor

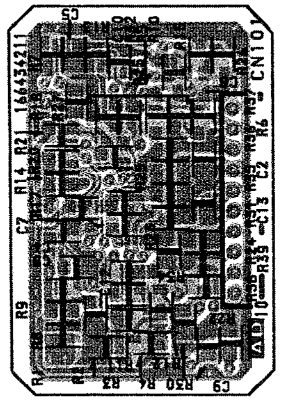
Q200	DTC144EKA-T146	LED DRIVE

Schematic Diagram
← AA board

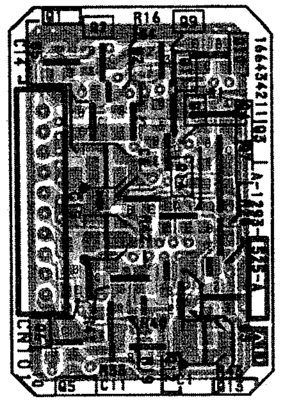
Schematic Diagram
AD board →

AD (VIDEO BUFFER)BOARD

— AD BOARD — <Conductor side>

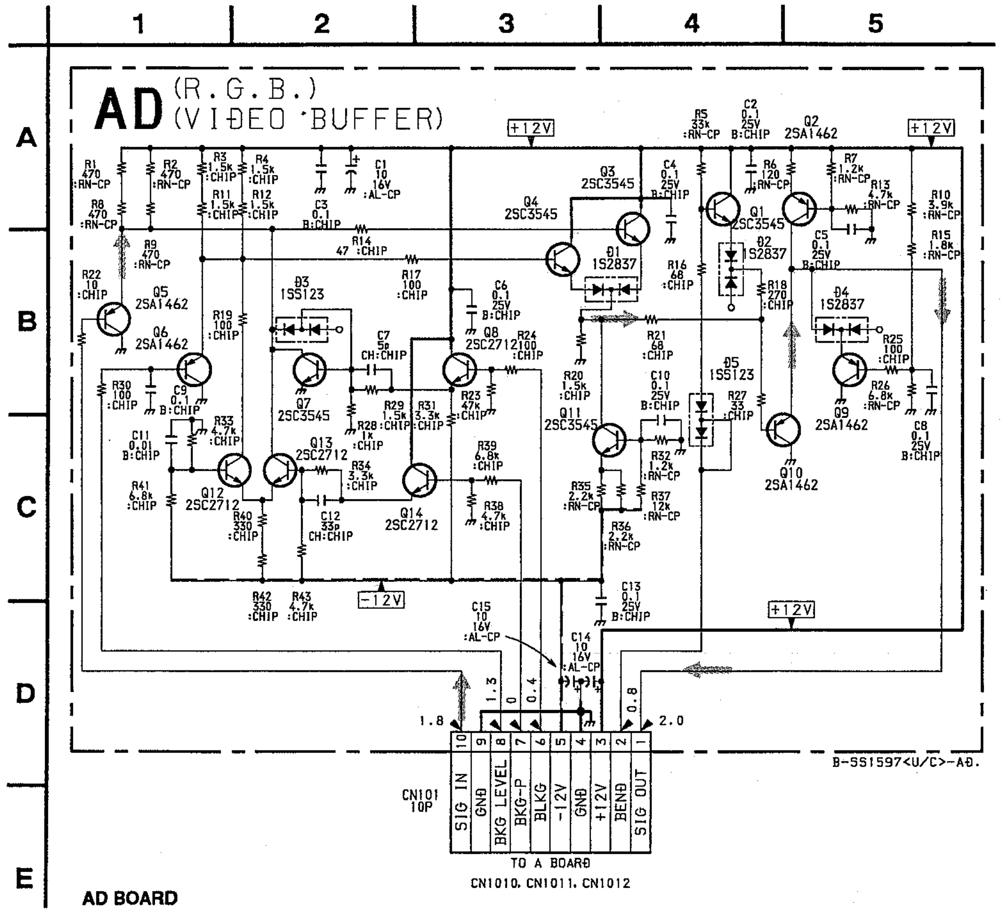


— AD BOARD — <Component side>



- ▨ : Pattern from the side which enables seeing.
- ▩ : Pattern of the rear side.

• AD (VIDEO BUFFER) DIAGRAM


1
2
3
4
5
A
B
C
D
E
AD (R.G.B.)
(VIDEO BUFFER)
+12V
-12V
Q1 2SC3545
Q2 2SA1462
Q3 2SC3545
Q4 2SC3545
Q5 2SA1462
Q6 2SA1462
Q7 2SC3545
Q8 2SC2712
Q9 2SA1462
Q10 2SA1462
Q11 2SC3545
Q12 2SC2712
Q13 2SC2712
Q14 2SC2712
D1 1S2837
D2 1S2837
D3 1SS123
D4 1S2837
D5 1SS123
CN101
10P
SIG IN
GND
BKG LEVEL
BKG-P
BLKG
-12V
GND
+12V
BGND
SIG OUT
TO A BOARD
CN1010, CN1011, CN1012
1.8
1.3
0.4
0.8
2.0
B-SS1597<U/C>-AD.

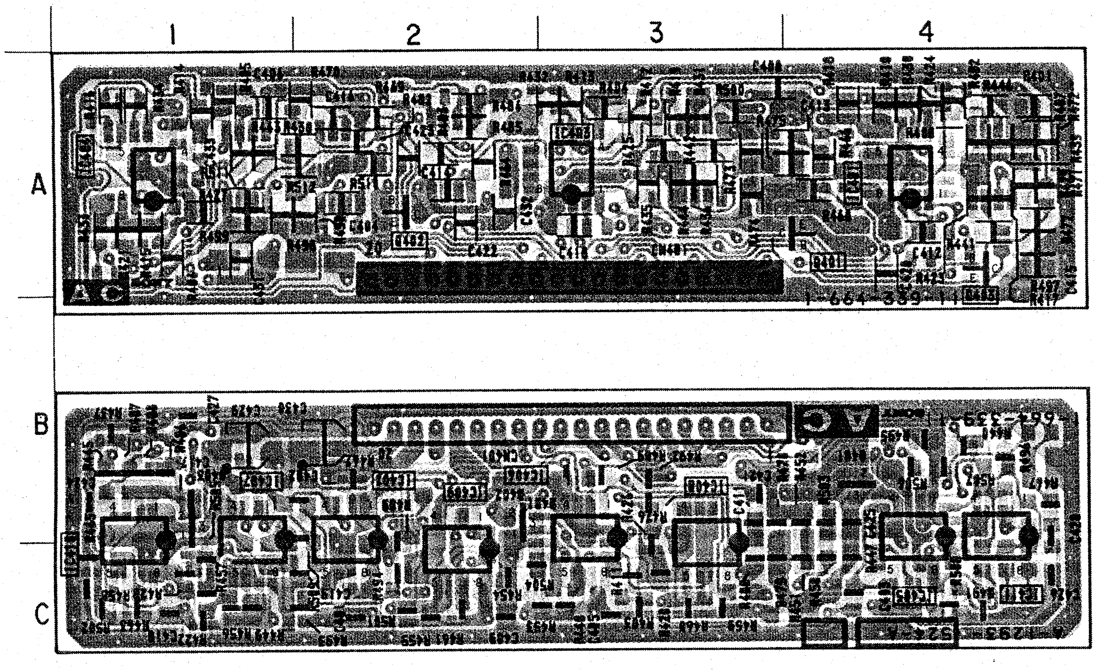
AD BOARD

Function of Semiconductor

D1	1S1837	PROTECTOR	Q5	2SA1462-Y34	SIGNAL AMP
D2	1S1837	PROTECTOR	Q6	2SA1462-Y34	BKG LEVEL AMP
D3	1SS123	PROTECTOR	Q7	2SC3545-T1T44	BLANK CONTROL
D4	1S1837	PROTECTOR	Q8	2SC2712-YG	BLANK CONTROL
D5	1SS123	PROTECTOR	Q9	2SA1462-Y34	SIGNAL OUT
			Q10	2SA1462-Y34	SIGNAL OUT
Q1	2SC3545-T1T44	SWITCH	Q11	2SC3545-T1T44	SIGNAL OUT
Q2	2SA1462-Y34	SIGNAL OUT	Q12	2SC2712-YG	BLANK CONTROL
Q3	2SC3545-T1T44	MIX	Q13	2SC2712-YG	BLANK CONTROL
Q4	2SC3545-T1T44	MIX	Q14	2SC2712-YG	BLANK CONTROL

AC (BKG CONTROL, CUT OFF) BOARD

— AC BOARD — <Conductor side>



- ▨ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side.

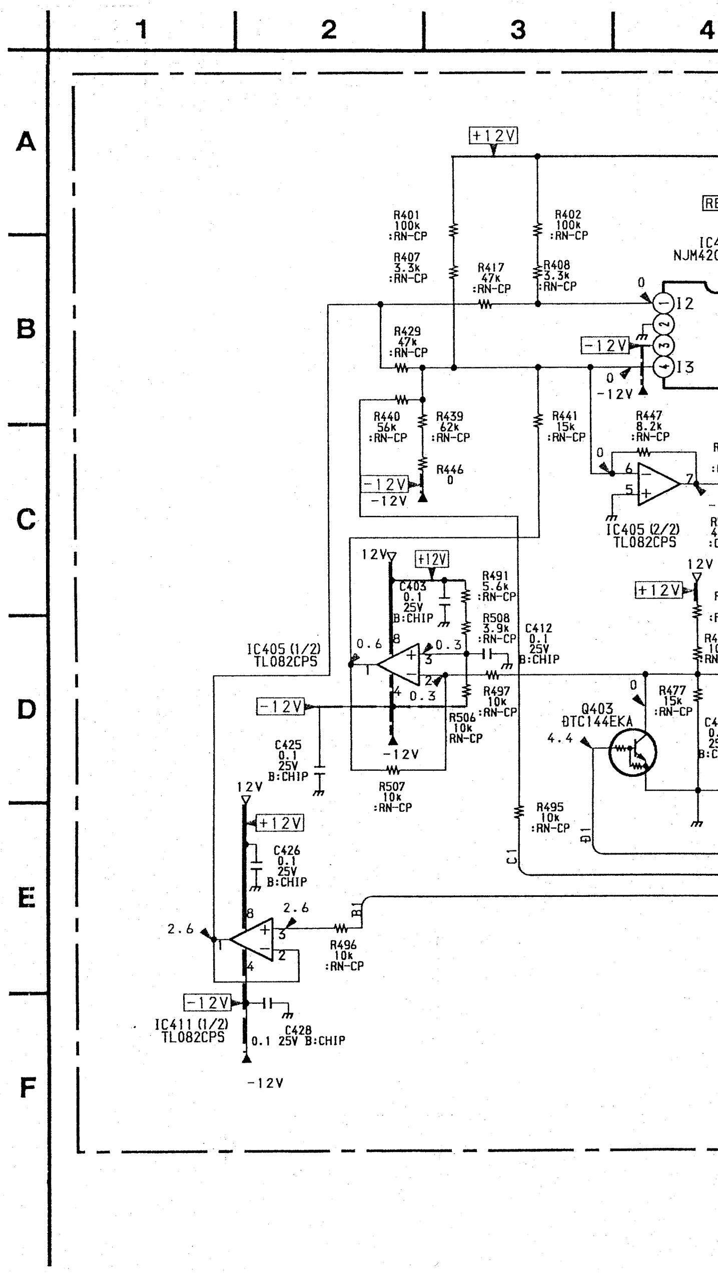
AC BOARD
Semiconductor Location

DIODE	
D401	B-4
D402	B-2
D403	B-1
IC	
IC401	A-4
IC402	B-2
IC403	A-3
IC404	A-1
IC405	B-4
IC406	B-3
IC407	B-1
IC408	B-3
IC409	B-2
IC410	B-1
IC411	B-4
TRANSISTOR	
Q401	A-4
Q402	A-2
Q403	A-4

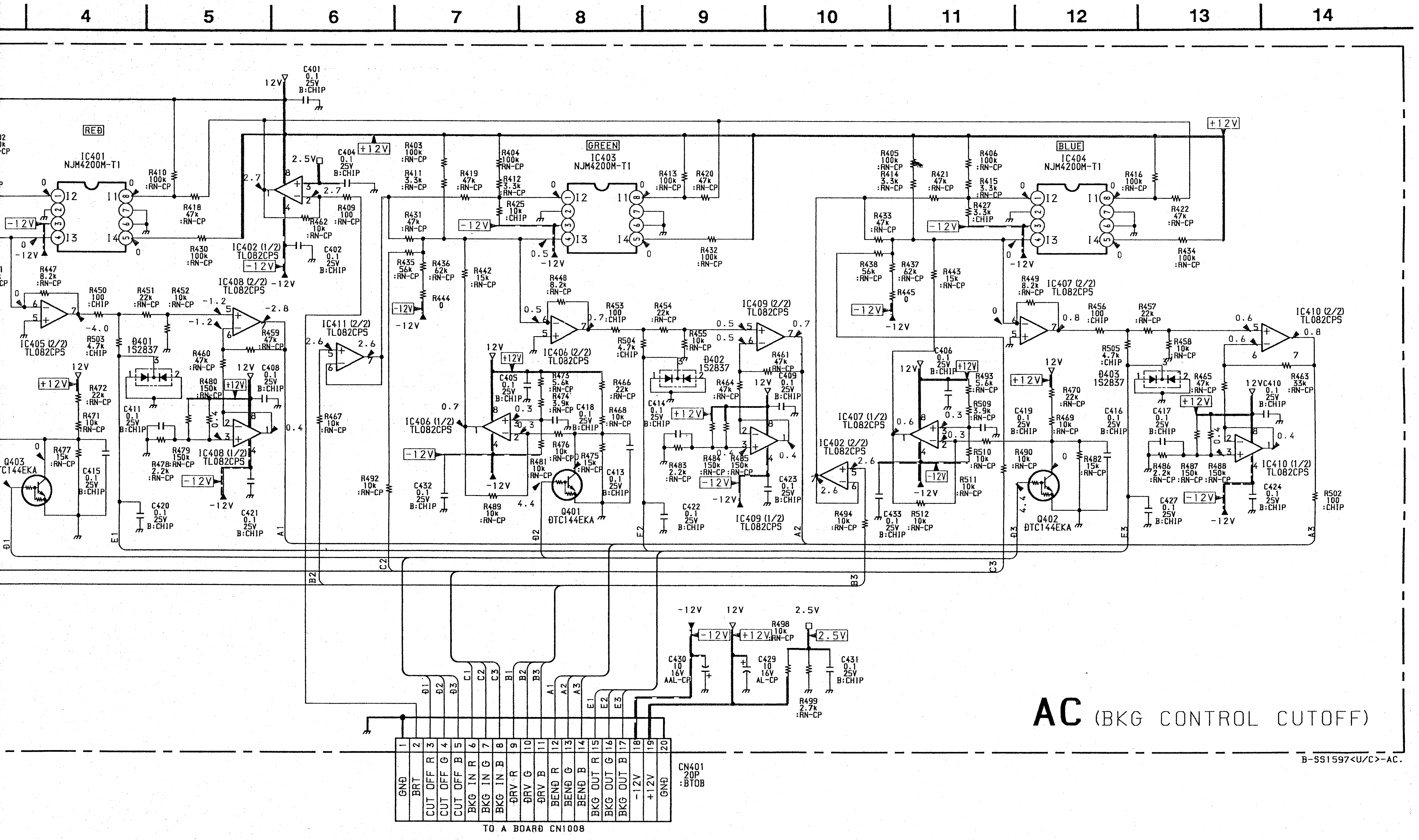
AC BOARD
Function of Semiconductor

D401	1S2837	PROTECTOR
D402	1S2837	PROTECTOR
D403	1S2837	PROTECTOR
IC401	NJM4200M	R BKG CONTROLLER
IC402	TL082CPS	INVERTER
IC403	NJM4200M	G BKG CONTROLLER
IC404	NJM4200M	B BKG CONTROLLER
IC405	TL082CPS	R MIX AMP, DC BIAS
IC406	TL082CPS	G MIX AMP, DC BIAS
IC407	TL082CPS	B MIX AMP, DC BIAS
IC408	TL082CPS	BEND R
IC409	TL082CPS	BEND G
IC410	TL082CPS	BEND B
IC411	TL082CPS	BUFFER
Q401	DTC144EKA-T146	G CUT OFF SW
Q402	DTC144EKA-T146	B CUT OFF SW
Q403	DTC144EKA-T146	R CUT OFF SW

• AC (BKG CONTROL, CUT OFF) DIAGRAM

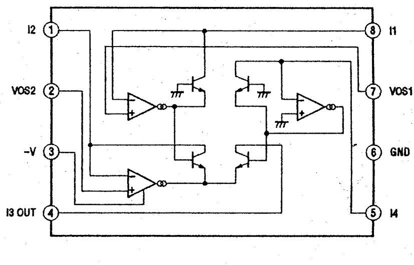


1
2
3
4
A
B
C
D
E
F
+12V
R401 100k :RN-CP
R402 100k :RN-CP
R407 3.3k :RN-CP
R417 47k :RN-CP
R408 3.3k :RN-CP
R429 47k :RN-CP
R440 56k :RN-CP
R439 62k :RN-CP
R446 0
R441 15k :RN-CP
R447 8.2k :RN-CP
-12V
IC405 (2/2) TL082CPS
IC405 (1/2) TL082CPS
C403 0.1 25V B:CHIP
R491 5.6k :RN-CP
R508 3.9k :RN-CP
C412 0.1 25V B:CHIP
R497 10k :RN-CP
R506 10k RN-CP
R507 10k :RN-CP
Q403 DTC144EKA
R477 15k :RN-CP
R495 10k :RN-CP
C425 0.1 25V B:CHIP
C426 0.1 25V B:CHIP
R496 10k :RN-CP
IC411 (1/2) TL082CPS
C428 0.1 25V B:CHIP
2.6
0.6
0.3
4.4
C1
B1


AC (BKG CONTROL CUTOFF)
B-SS1597<U/C>-AC.
4
5
6
7
8
9
10
11
12
13
14
RED
IC401
NJM4200M-T1
GREEN
IC403
NJM4200M-T1
BLUE
IC404
NJM4200M-T1
IC402 (1/2)
TL082CPS
IC402 (2/2)
TL082CPS
IC405 (2/2)
TL082CPS
IC406 (1/2)
TL082CPS
IC406 (2/2)
TL082CPS
IC407 (1/2)
TL082CPS
IC407 (2/2)
TL082CPS
IC408 (1/2)
TL082CPS
IC408 (2/2)
TL082CPS
IC409 (1/2)
TL082CPS
IC409 (2/2)
TL082CPS
IC410 (1/2)
TL082CPS
IC410 (2/2)
TL082CPS
IC411 (2/2)
TL082CPS
Q401
DTC144EKA
Q402
DTC144EKA
Q403
DTC144EKA
D401
1S2837
D402
1S2837
D403
1S2837
CN401
20P
:BTOB
TO A BOARD CN1008
1 GND
2 BRT
3 CUT OFF R
4 CUT OFF G
5 CUT OFF B
6 BKG IN R
7 BKG IN G
8 BKG IN B
9 DRV R
10 DRV G
11 DRV B
12 BEND R
13 BEND G
14 BEND B
15 BKG OUT R
16 BKG OUT G
17 BKG OUT B
18 -12V
19 +12V
20 GND
+12V
-12V
2.5V

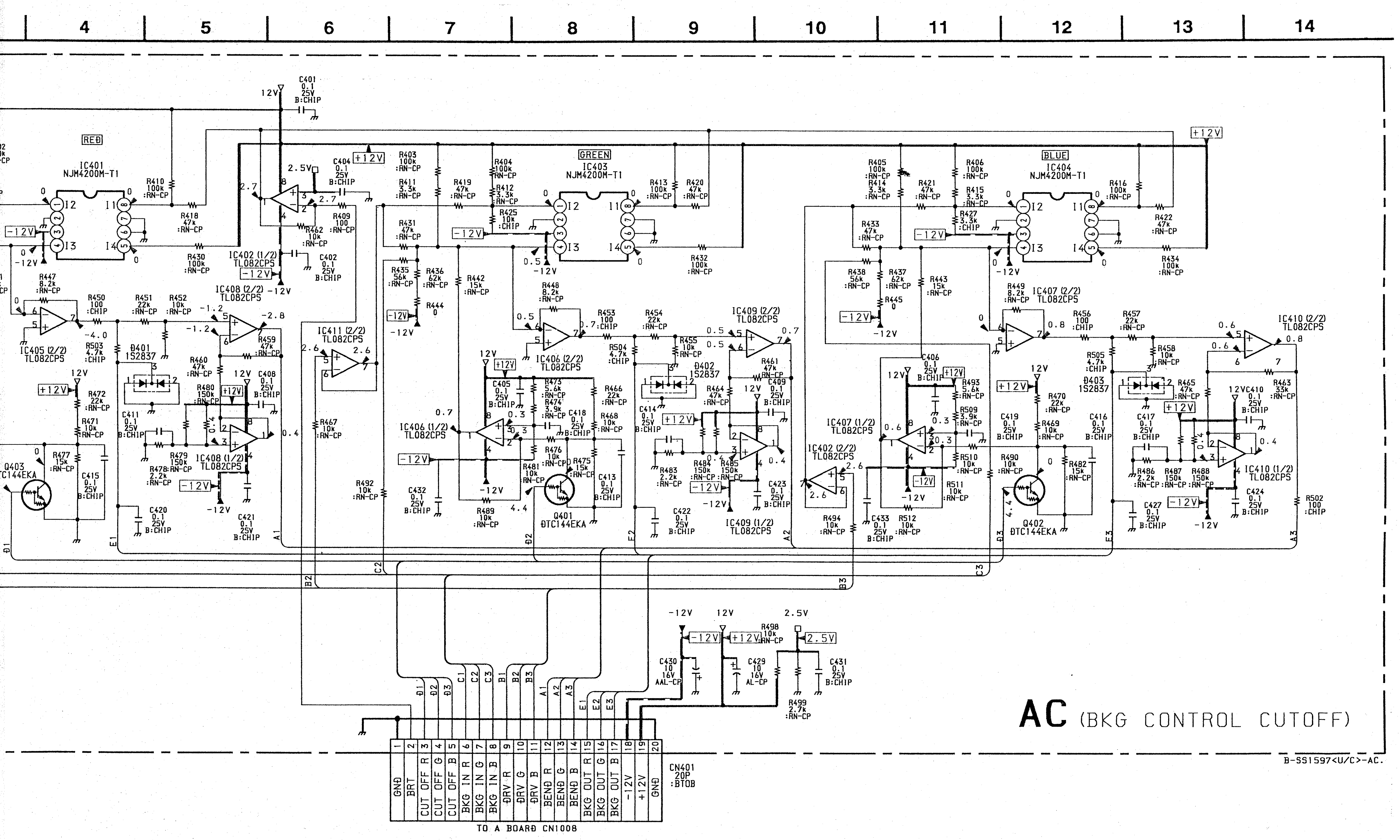
AC Board IC Block Diagram

NJM4200M-T1 (IC401, 403, 404)


I2 ①
VOS2 ②
-V ③
I3 OUT ④
⑧ I1
⑦ VOS1
⑥ GND
⑤ I4

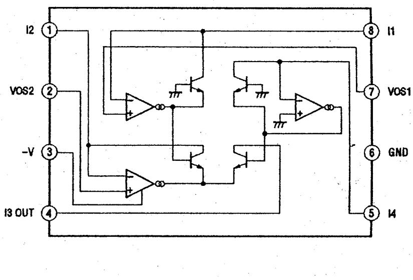
Schematic Diagram

Y (1/2) board ➡


4
5
6
7
8
9
10
11
12
13
14
RED
IC401
NJM4200M-T1
GREEN
IC403
NJM4200M-T1
BLUE
IC404
NJM4200M-T1
IC402 (1/2) TL082CPS
IC402 (2/2) TL082CPS
IC405 (2/2) TL082CPS
IC406 (1/2) TL082CPS
IC406 (2/2) TL082CPS
IC407 (1/2) TL082CPS
IC407 (2/2) TL082CPS
IC408 (1/2) TL082CPS
IC408 (2/2) TL082CPS
IC409 (1/2) TL082CPS
IC409 (2/2) TL082CPS
IC410 (1/2) TL082CPS
IC410 (2/2) TL082CPS
IC411 (2/2) TL082CPS
Q401 DTC144EKA
Q402 DTC144EKA
Q403 DTC144EKA
D401 1S2837
D402 1S2837
D403 1S2837
+12V
-12V
2.5V
CN401 20P :BTOB
GND
BRT
CUT OFF R
CUT OFF G
CUT OFF B
BKG IN R
BKG IN G
BKG IN B
DRV R
DRV G
DRV B
BEND R
BEND G
BEND B
BKG OUT R
BKG OUT G
BKG OUT B
-12V
+12V
GND
TO A BOARD CN1008
AC (BKG CONTROL CUTOFF)
B-SS1597<U/C>-AC.

AC Board IC Block Diagram

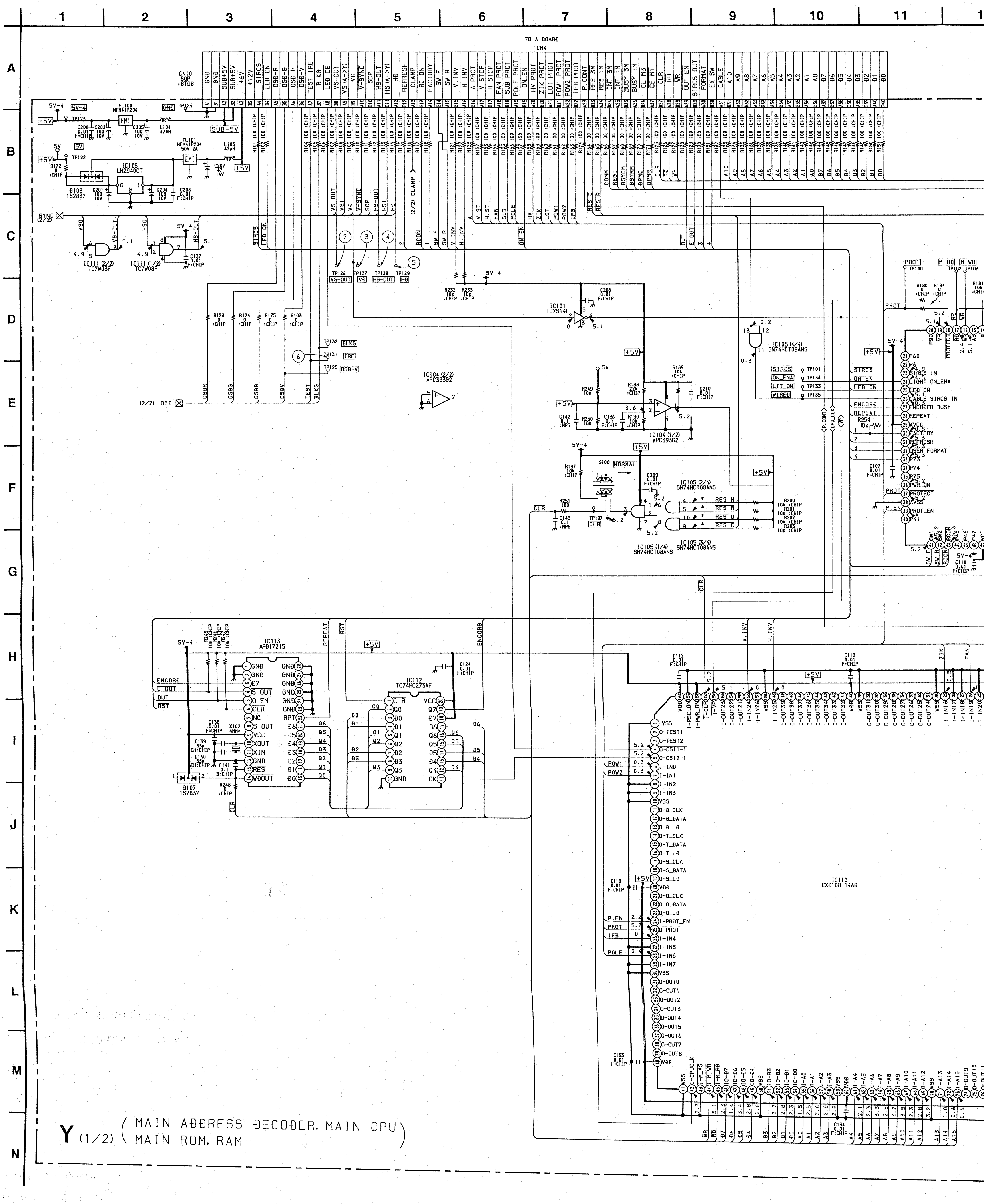
NJM4200M-T1 (IC401, 403, 404)

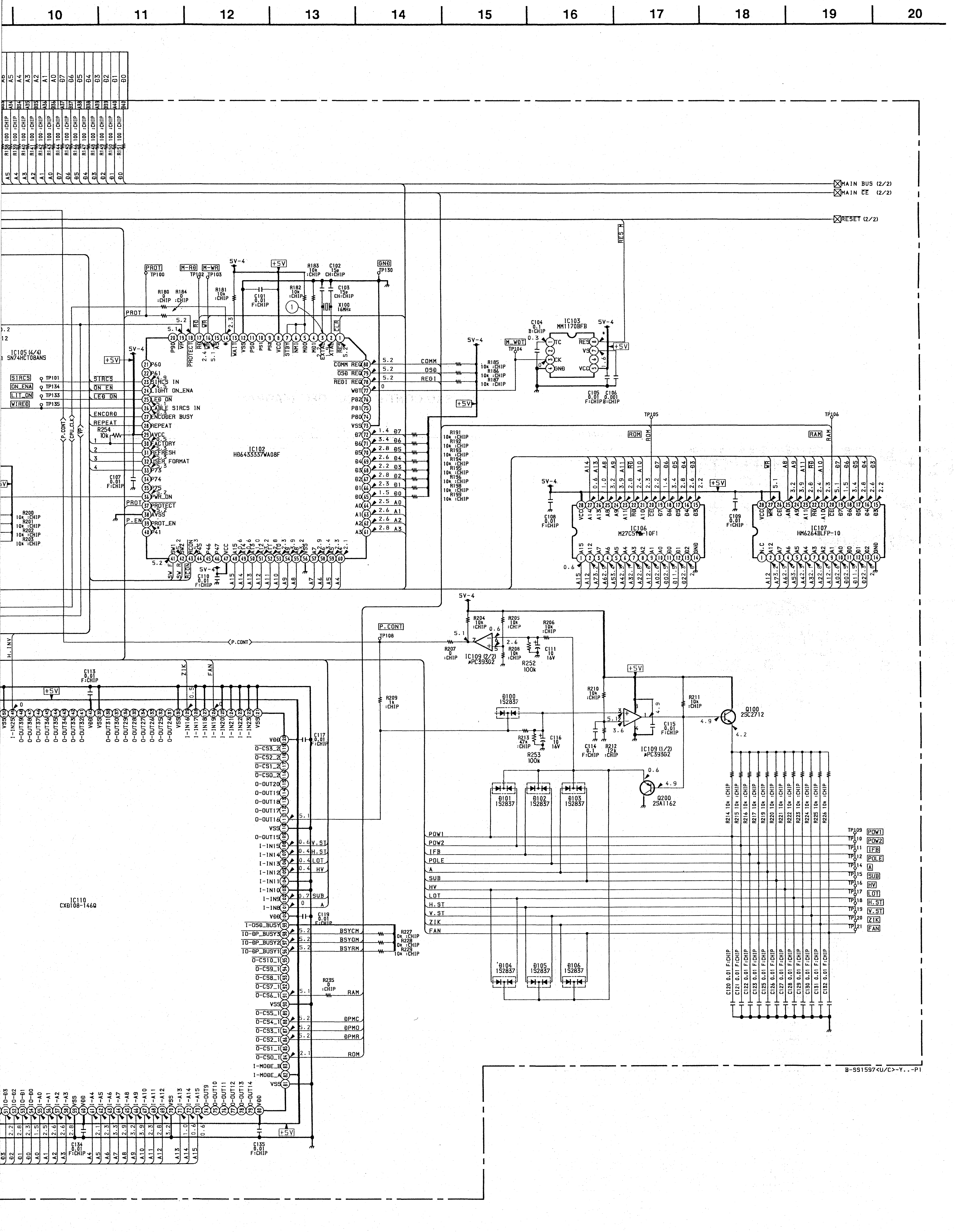

I2
VOS2
-V
I3 OUT
I1
VOS1
GND
I4
1
2
3
4
8
7
6
5

Schematic Diagram

Y (1/2) board ➡

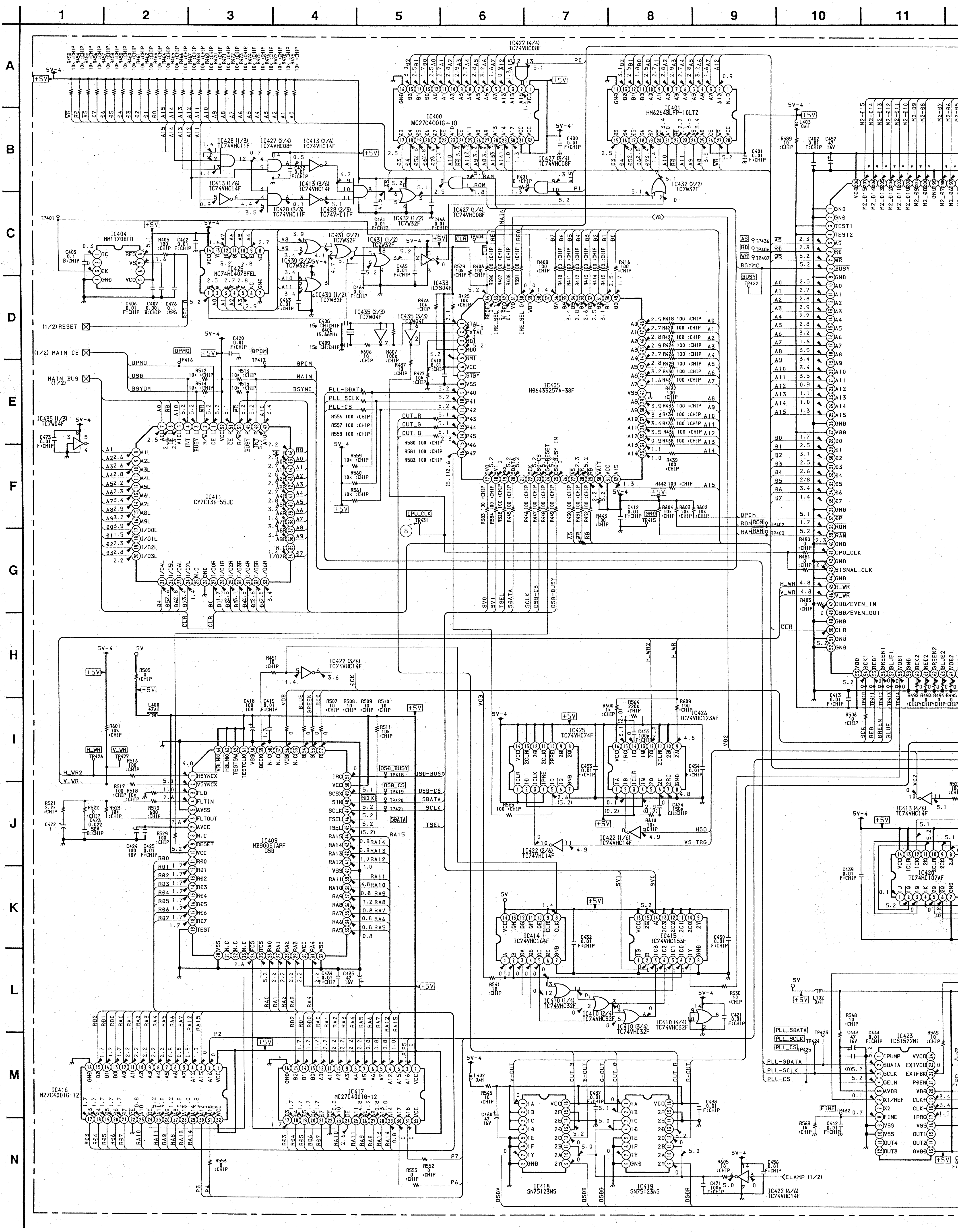
- **Y (1/2) (MAIN CPU, MAIN ADDRESS DECODER, RAM, MAIN ROM) DIAGRAM**
- Refer to page 4-98 for Waveforms
- Refer to page 4-99 for Function of Semiconductor
- Refer to page 4-100 for IC Block Diagrams
- Refer to page 4-94 for Printed Wiring Board


Y (1/2) (MAIN ADDRESS DECODER, MAIN CPU MAIN ROM, RAM)
TO A BOARD CN4
CN10 80P :BTOB
IC108 LM2940CT
IC111 (2/2) TC7W08F
IC111 (1/2) TC7W08F
IC101 TC7S14F
IC104 (2/2) μPC393G2
IC104 (1/2) μPC393G2
IC105 (1/4) SN74HCT08ANS
IC105 (2/4) SN74HCT08ANS
IC105 (3/4) SN74HCT08ANS
IC105 (4/4) SN74HCT08ANS
IC113 μPD17215
IC112 TC74HC273AF
IC110 CXD108-146Q
S100 NORMAL
FL100 NFM41P204
FL101 NFM41P204 50V 2A
D108 1S2837
D107 1S2837
X102 4MHz


10
11
12
13
14
15
16
17
18
19
20
IC102
HD6433337WA08F
IC105 (4/4)
SN74HCT08ANS
IC103
MM1170BFB
IC106
M27C5__-10F1
IC107
HM6264BLFP-10
IC109 (2/2)
μPC393G2
IC109 (1/2)
μPC393G2
IC110
CXD108-146Q
Q100
2SC2712
Q200
2SA1162
D100 1S2837
D101 1S2837
D102 1S2837
D103 1S2837
D104 1S2837
D105 1S2837
D106 1S2837
X100 16MHz
MAIN BUS (2/2)
MAIN CE (2/2)
RESET (2/2)
P.CONT
CPU_CLK
VP
PROT
M-RD
M-WR
GND
M_WDT
RES H
ROM
RAM
COMM
OSD
REG1
+5V
5V-4
POW1
POW2
IFB
POLE
A
SUB
HV
LOT
H.ST
V.ST
ZIK
FAN
SIRCS
ON_ENA
LIT_ON
WIRED
BSYCM
BSYOM
BSYRM
ØPMC
ØPMO
ØPMR
H.INV
B-SS1597<U/C>-Y..-P1

• Y (2/2) (OSD MCU, S RAM, CHAR & TEST PATTERN GEN., OSD CPU) DIAGRAM

- Refer to page 4-98 for Waveforms
- Refer to page 4-99 for Function of Semiconductor
- Refer to page 4-100 for IC Block Diagrams
- Refer to page 4-94 for Printed Wiring Board



1
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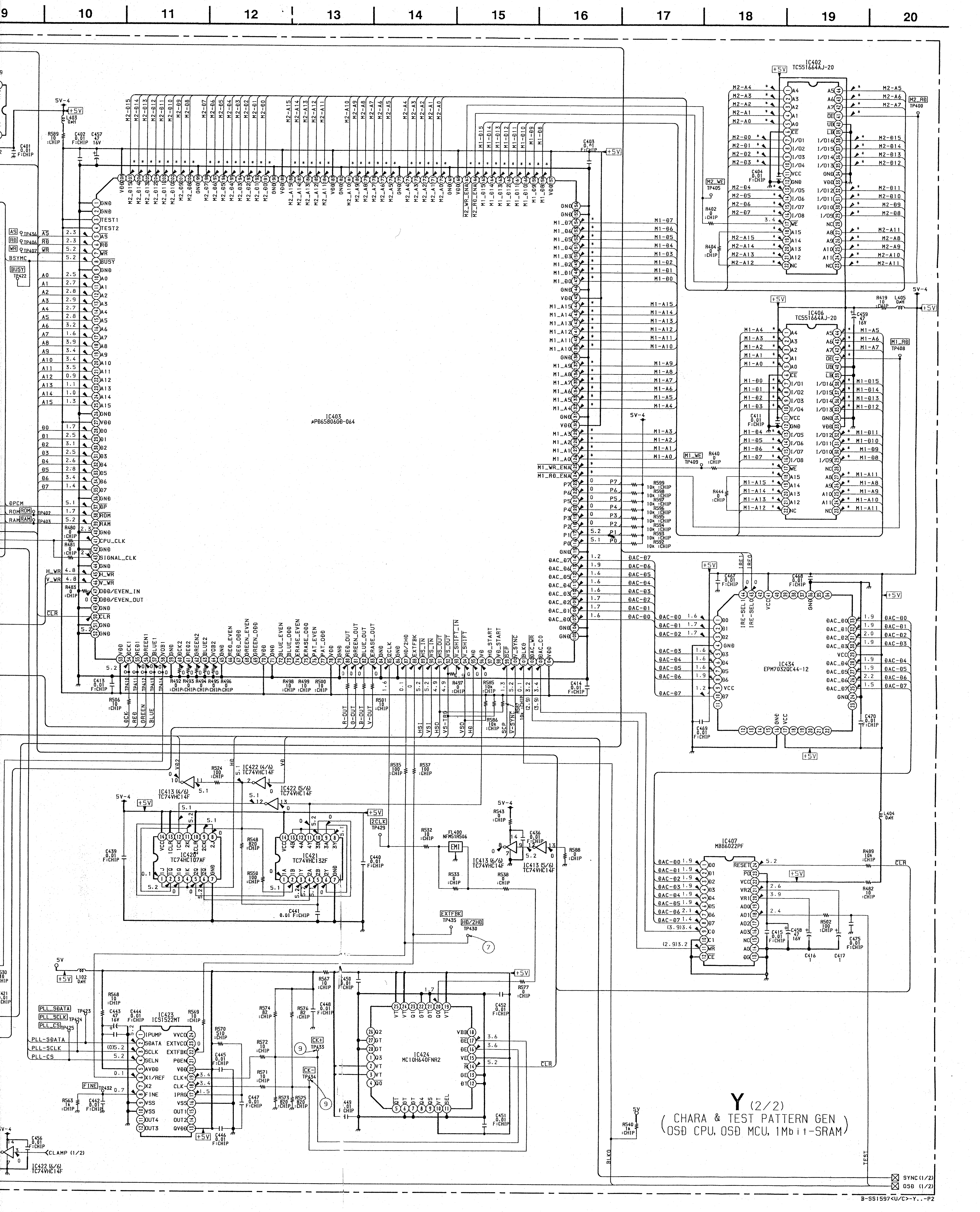
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
IC400 MC27C4001G-10
IC401 HM6264BLFP-10LTZ
IC404 MM1170BFB
IC405 HD6433257A-38F
IC409 MB90091APF OSD
IC411 CY7C136-55JC
IC414 TC74VHC164F
IC415 TC74VHC153F
IC416 M27C4001G-12
IC417 MC27C4001G-12
IC418 SN75123NS
IC419 SN75123NS
IC420 TC74HC107AF
IC423 IC51522MT
IC425 TC74VHC74F
IC426 TC74VHC123AF
IC429 MC74HC4078FEL
IC433 TC7S04F
(1/2) RESET
(1/2) MAIN CE
MAIN BUS (1/2)
CLAMP (1/2)


9
10
11
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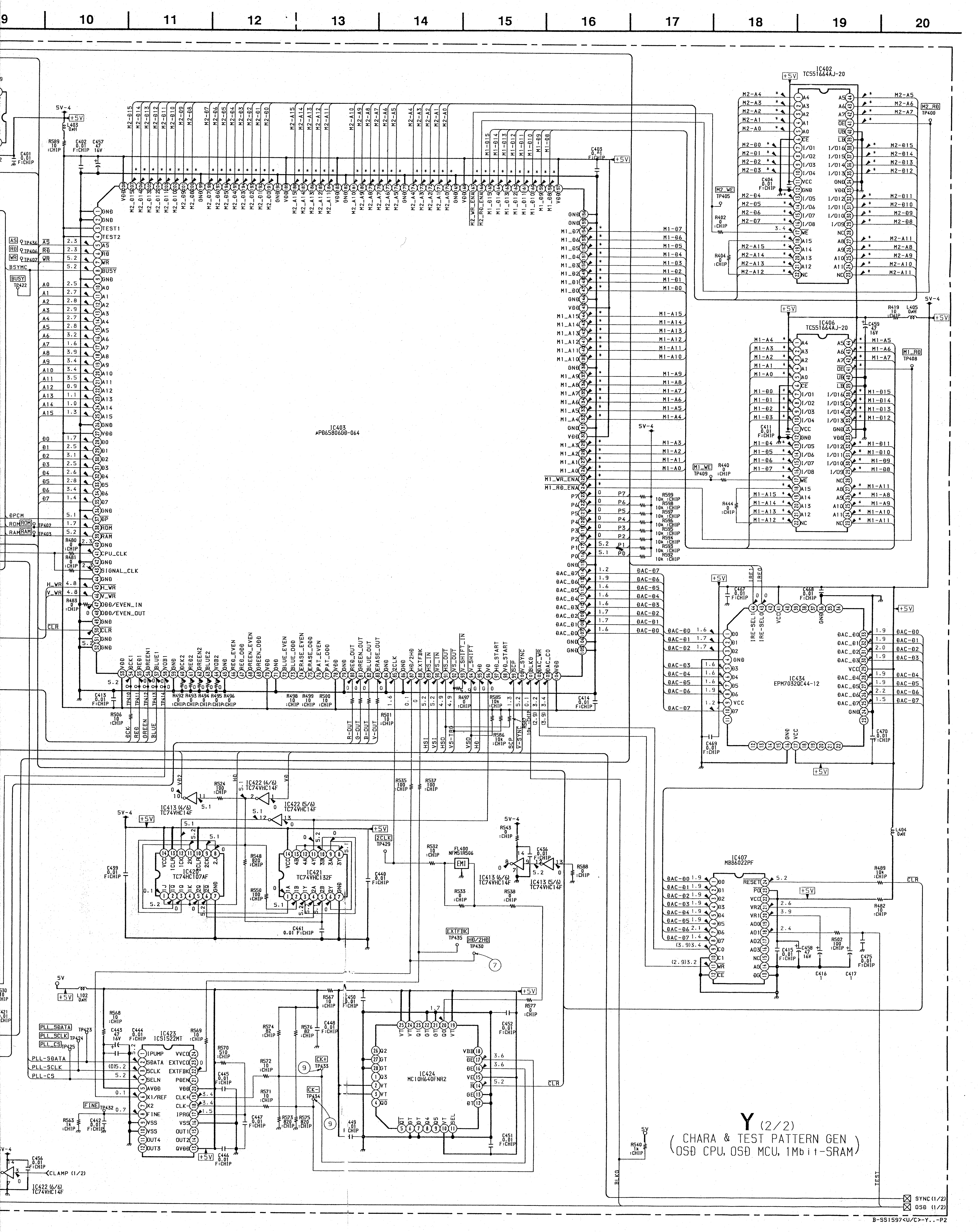
13
14
15
16
17
18
19
20
IC402 TC551664AJ-20
IC406 TC551664AJ-20
IC403 µPD65806GD-064
IC434 EPM7032QC44-12
IC407 MB86022PF
IC420 TC74HC107AF
IC421 TC74VHC132F
IC413 (4/6) TC74VHC14F
IC413 (5/6) TC74VHC14F
IC413 (6/6) TC74VHC14F
IC422 (4/6) TC74VHC14F
IC422 (5/6) TC74VHC14F
IC422 (6/6) TC74VHC14F
IC423 ICS1522MT
IC424 MC10H640FNR2
FL400 NFM51R506
CLAMP (1/2)
SYNC (1/2)
OSD (1/2)
B-SS1597<U/C>-Y..-P2

Y (2/2)
(CHARA & TEST PATTERN GEN
OSD CPU, OSD MCU, 1Mbit-SRAM)


9
10
11
12
13
14
15
16
17
18
19
20
IC403
µPD65806GD-064
IC402
TC551664AJ-20
IC406
TC551664AJ-20
IC434
EPM7032QC44-12
IC407
MB86022PF
IC420
TC74HC107AF
IC421
TC74VHC132F
IC423
ICS1522MT
IC424
MC10H640FNR2
IC413 (4/6)
TC74VHC14F
IC413 (5/6)
TC74VHC14F
IC413 (6/6)
TC74VHC14F
IC422 (4/6)
TC74VHC14F
IC422 (5/6)
TC74VHC14F
IC422 (6/6)
TC74VHC14F
FL400
NFM51R506
5V-4
+5V
5V
CLAMP (1/2)
PLL-SDATA
PLL-SCLK
PLL-CS
FINE
CK+
CK-
EXTFBK
HD/2HD
2CLK
M1_WE
M1_RD
M2_WE
M2_RD
BUSY
BSYNC
CLR
BLKG
TEST
SYNC (1/2)
OSD (1/2)
B-SS1597<U/C>-Y..-P2

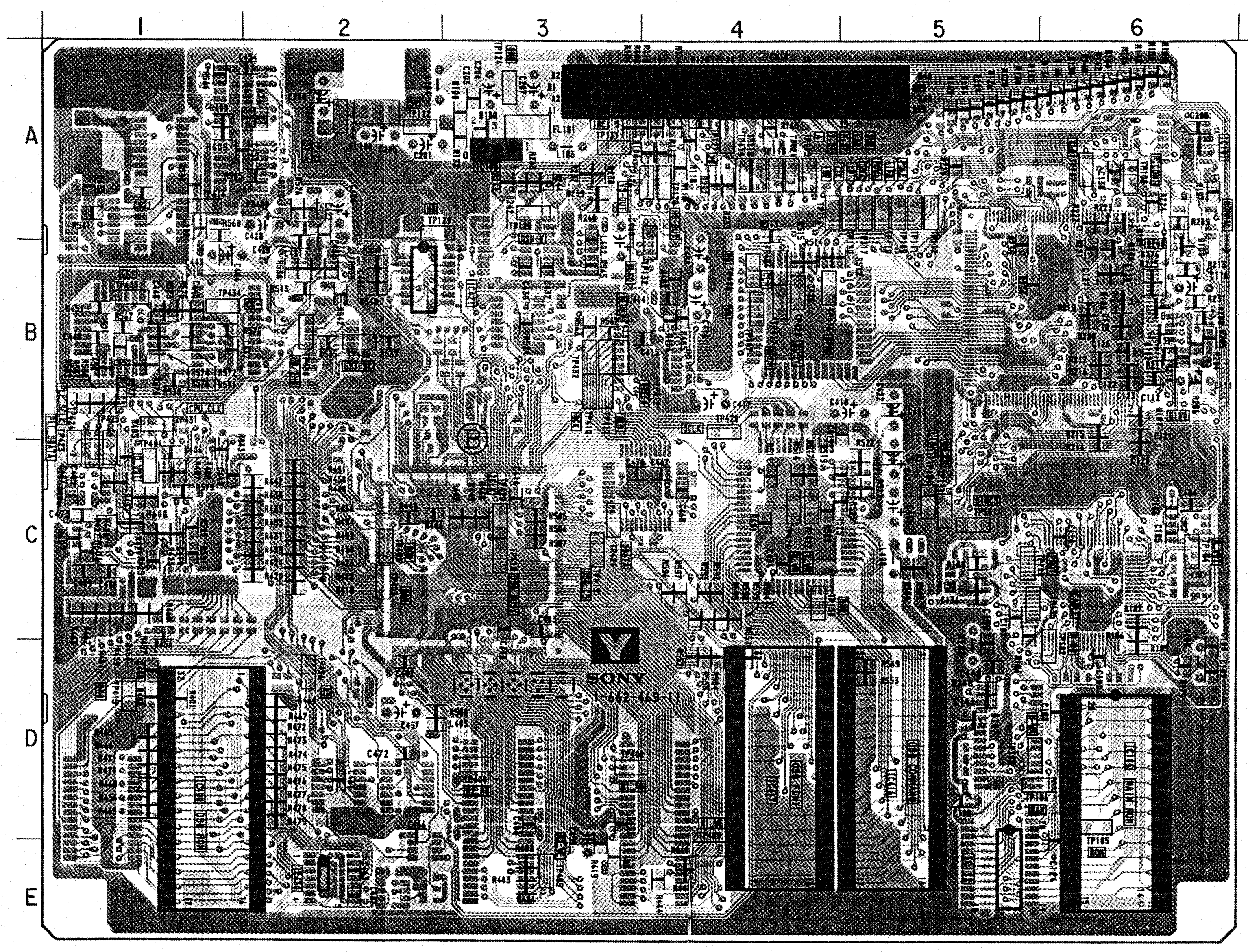
Y (2/2)
(CHARA & TEST PATTERN GEN)
(OSD CPU, OSD MCU, 1Mbit-SRAM)

Y BOARD
Semiconductor Location

DIODE	
D100	B-6
D101	B-6
D102	B-6
D103	B-6
D104	B-6
D105	A-6
D106	A-7
D107	D-5
D108	A-3
IC	
IC101	A-6
IC102	B-8
IC103	B-7
IC104	B-8
IC105	A-7
IC106	D-6
IC107	E-8
IC108	A-3
IC109	B-7
IC110	B-8
IC111	A-10
IC112	E-5
IC113	D-8
IC400	D-1
IC401	D-12
IC402	D-10
IC403	C-10
IC404	C-12
IC405	C-12
IC406	D-10
IC407	B-10
IC409	C-9
IC410	A-12
IC411	B-9
IC413	B-11
IC414	A-12
IC415	A-12
IC416	D-5
IC417	D-4
IC418	A-10
IC419	A-10
IC420	B-11
IC421	B-2
IC422	B-10
IC423	B-12
IC424	B-12
IC425	A-12
IC426	A-12
IC427	D-11
IC428	D-11
IC429	E-11
IC430	E-2
IC431	E-11
IC432	E-11
IC433	E-11
IC434	C-10
IC435	C-12
TRANSISTOR	
Q100	B-6
Q200	B-6
TEST POINT	
TP100	C-5
TP101	C-5
TP102	D-6
TP103	D-5
TP104	C-6
TP105	D-6
TP106	D-5
TP107	A-6
TP108	A-6
TP109	A-5
TP110	A-5
TP111	A-5
TP112	A-5
TP114	A-4
TP115	A-4
TP116	A-4
TP117	A-5
TP118	A-4
TP119	A-4
TP120	A-5
TP121	A-4
TP122	A-2
TP123	A-2
TP124	A-3
TP125	A-3
TP126	A-4
TP127	A-4
TP128	A-4
TP129	A-2
TP130	C-4
TP131	A-3
TP132	B-4
TP133	C-5
TP134	C-5
TP135	C-5
TP400	D-3
TP401	C-1
TP402	C-2
TP403	C-2
TP404	B-4
TP405	E-3
TP406	B-4
TP407	B-4
TP408	D-3
TP409	E-4
TP410	B-3
TP411	B-3
TP412	B-3
TP413	B-3
TP414	A-1
TP415	D-1
TP416	B-4
TP417	B-4
TP418	C-3
TP419	C-3
TP420	B-4
TP421	C-3
TP422	B-4
TP423	B-1
TP424	B-1
TP425	B-1
TP426	C-4
TP427	C-4
TP429	C-3
TP430	B-2
TP431	B-1
TP432	B-3
TP433	B-1
TP434	B-1
TP435	B-2
TP436	D-2

Y (MAIN CPU, MAIN ADDRESS DECODER, RAM, MAIN ROM, OSD CPU CHAR & TEST PATTERN GEN) BOARD

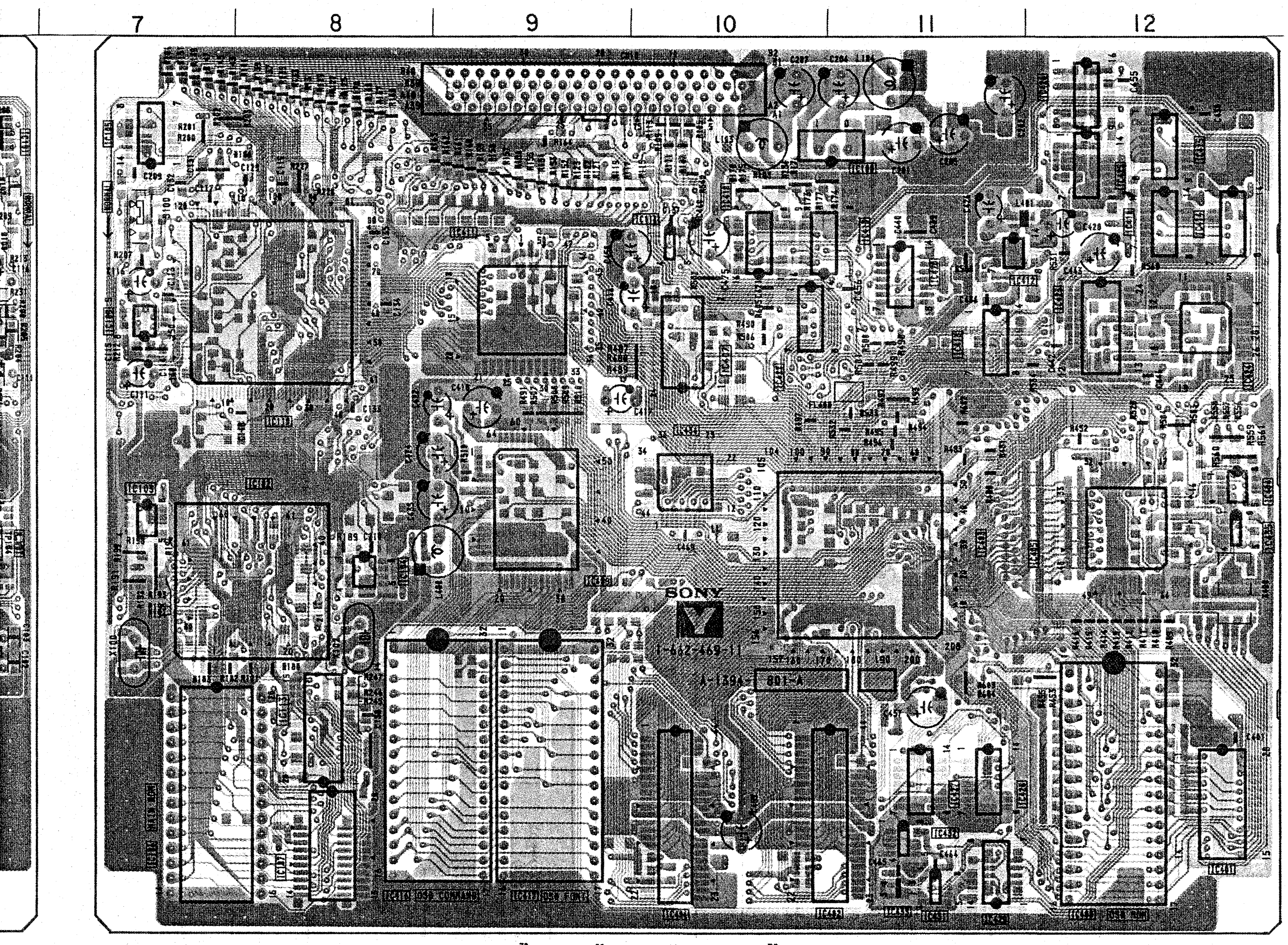
— Y BOARD — <Conductor side>



— Y B

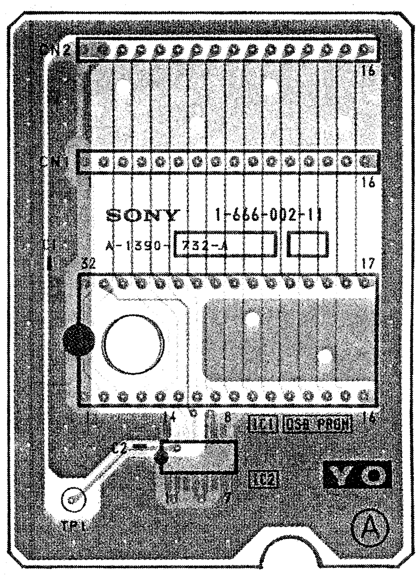
YO (OSD ROM) BOARD

— Y BOARD — <Component side>

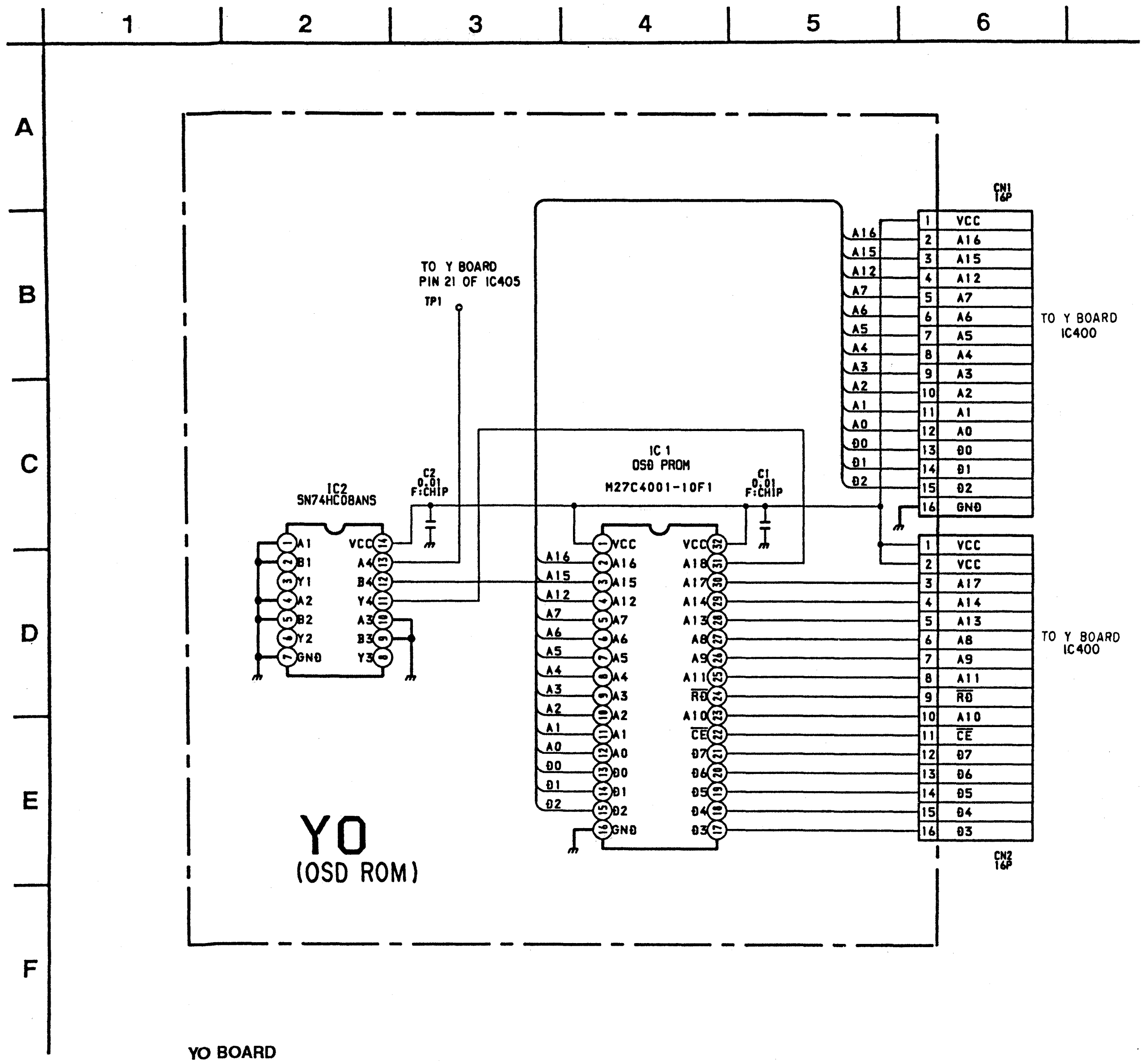

7
8
9
10
11
12
SONY
1-662-469-11
MAIN ROM
OSD COMMAND
OSD FONT
OSD ROM

- ▨ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side.

— YO BOARD — <Component side>


CN2
CN1
SONY
1-666-002-11
A-1390-732-A
32
17
16
IC1 OSD PROM
IC2
C2
TP1
YO
Ⓐ

• YO (OSD ROM) DIAGRAM

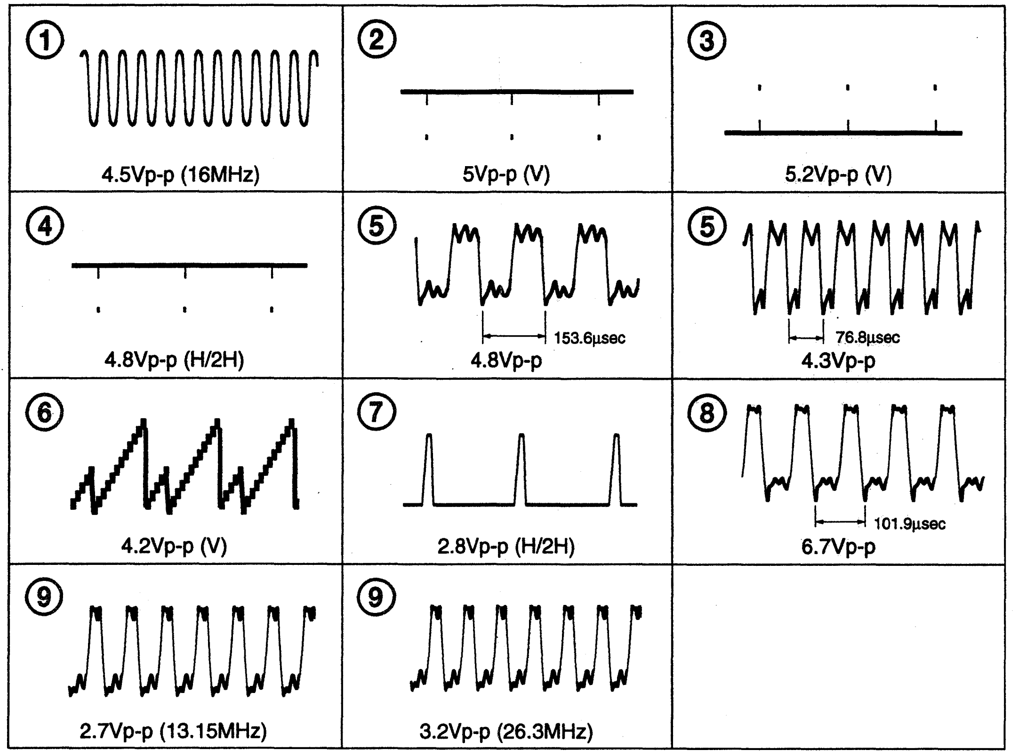

1
2
3
4
5
6
A
B
C
D
E
F
TO Y BOARD
PIN 21 OF IC405
TP1
IC2
SN74HC08ANS
C2
0.01
F:CHIP
IC1
OSD PROM
M27C4001-10F1
C1
0.01
F:CHIP
CN1
16P
TO Y BOARD
IC400
CN2
16P
TO Y BOARD
IC400
YO
(OSD ROM)

YO BOARD

Function of Semiconductor

IC1	M27C4001-10F1	OSD PROM
IC2	SN74HC08ANS	SWITCH

Y Board Waveforms


① 4.5Vp-p (16MHz)

② 5Vp-p (V)

③ 5.2Vp-p (V)

④ 4.8Vp-p (H/2H)

⑤ 153.6μsec 4.8Vp-p

⑤ 76.8μsec 4.3Vp-p

⑥ 4.2Vp-p (V)

⑦ 2.8Vp-p (H/2H)

⑧ 101.9μsec 6.7Vp-p

⑨ 2.7Vp-p (13.15MHz)

⑨ 3.2Vp-p (26.3MHz)

Y BOARD

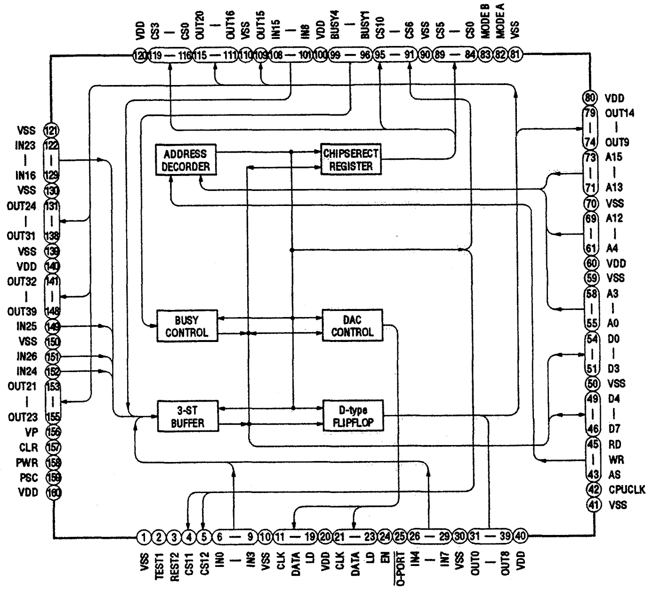
Function of Semiconductor

D100	1S2837	DISCHARGE
D101	1S2837	OR (PROTECTOR)
D102	1S2837	OR (PROTECTOR)
D103	1S2837	OR (PROTECTOR)
D104	1S2837	OR (PROTECTOR)
D105	1S2837	OR (PROTECTOR)
D106	1S2837	OR (PROTECTOR)
D107	1S2837	OR (PROTECTOR)
D108	1S2837	DISCHARGE
IC101	TC7S14F-TE85L	INVERTER
IC102	HD6433337WA08F	MAIN MCU
IC103	MM1170BFB	RESET (WD.TIMER)
IC104	UPC393G2-T2	COMPARATOR (VOLTAGE DETECT)
IC105	SN74HCT08ANS	AND (SIRCS MIX)
IC106	M27C512-10F1	MAIN ROM
IC107	HM6264BLFP-10LTZ	S-RAM
IC108	LM2940CT-5.0	5V REGULATOR
IC109	UPC393G2-T2	COMPARATOR (PROTECTOR)
IC110	CXD108-146Q	ADDRESS DECODER
IC111	TC7W08F	BUFFER
IC112	TC74HC273AF (EL)	DATA LATCH
IC113	uPD17215	SERCS ENCODER
IC400	M27C4001G-10	PROGRAM ROM (for OSD MCU)
IC401	HM6264BLFP-10LTZ	S-RAM
IC402	TC551664AJ-20	1M BIT S-RAM
IC403	UPD65806GD-064-LML	CHARA. & TEST PATTERN GEN.
IC404	MM1170BFB	RESET (WD.TIMER)
IC405	HD6433257A38F	OSD MCU
IC406	TC551664AJ-20	1M BIT S-RAM
IC407	MB86022PF-ER	IRE GEN.
IC409	MB90091APF-114	OSD CONTROLLER
IC410	TC74VHC32F	SHDE ADDER
IC411	CY7C136-55JC-TEL	DUAL PROT RAM
IC413	TC74VHC14F	INVERTER
IC414	TC74VHC164F	SHDE ADDER
IC415	TC74VHC153F (EL)	SHDE ADDER
IC416	M27C2001-15F1	TABLE ROM (for OSDC)
IC417	HN27C4001G-12	FONT ROM (for OSDC)
IC418	SN75123NS-E05	LINE DRIVER
IC419	SN75123NS-E05	LINE DRIVER
IC420	TC74HC107AF	VD SYNCHRONIZER
IC421	TC74VHC132F (EL)	VD SYNCHRONIZER
IC422	TC74VHC14F	INVERTER
IC423	ICS1522MT	PLL
IC424	MC10H640FNR2	PECL/TTL CLOCK DRIVE
IC425	TC74VHC74F	ODD/EVEN DETECTOR
IC426	TC74VHC123AF	ODD/EVEN DETECTOR
IC427	TC74VHC08F	ADDRESS DECODER
IC428	TC74VHC11F	ADDRESS DECODER
IC429	MC74HC4078FEL	ADDRESS DECODER
IC430	TC7W32F	ADDRESS DECODER
IC431	TC7W32F	ADDRESS DECODER
IC432	TC7W32F	ADDRESS DECODER
IC433	TC7S04F	INVERTER
IC434	EPM7032QC44-12-IRE	IRE SELECT
IC435	TC7W04F	CLOCK OSC

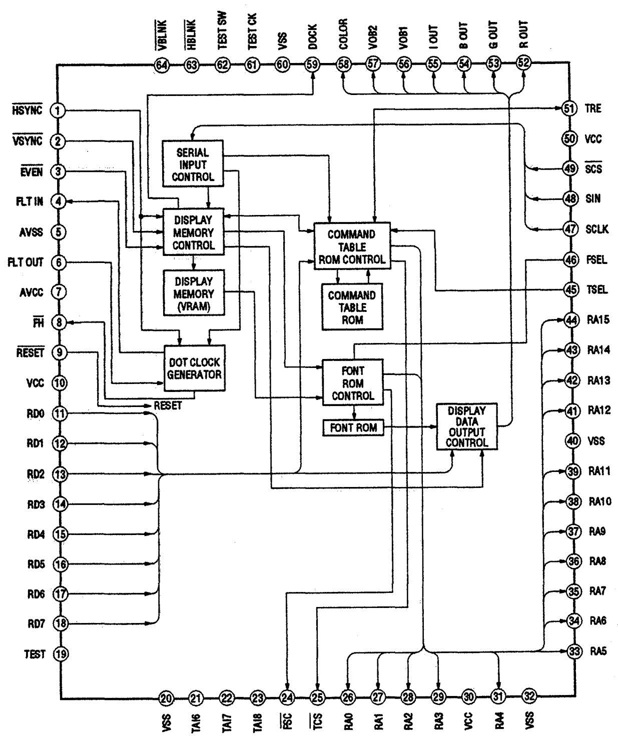
Q100	2SC2712-YG	PROTECT ENABLE SWITCH
Q200	2SA1162-YG	PROTECT ENABLE SWITCH

Y Board IC Block Diagrams

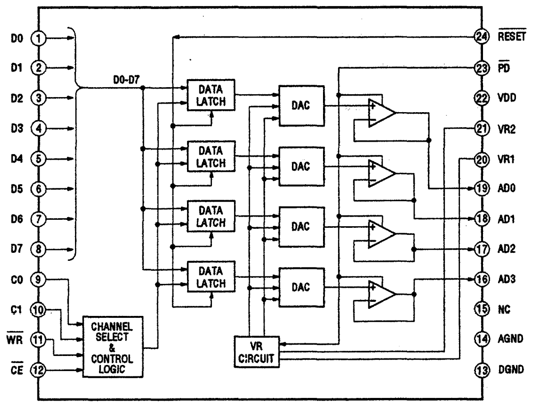
CXD108-146Q (IC110)


ADDRESS DECORDER
CHIPSERECT REGISTER
BUSY CONTROL
DAC CONTROL
3-ST BUFFER
D-type FLIPFLOP
VDD 120
CS3 119 — CS0 116
OUT20 115 — OUT16 111
VSS 110
OUT15 109
IN15 108 — IN8 101
VDD 100
BUSY4 99 — BUSY1 96
CS10 95 — CS6 91
VSS 90
CS5 89 — CS0 84
MODE B 83
MODE A 82
VSS 81
VDD 80
OUT14 79 — OUT9 74
A15 73 — A13 71
VSS 70
A12 69 — A4 61
VDD 60
VSS 59
A3 58 — A0 55
D0 54 — D3 51
VSS 50
D4 49 — D7 46
RD 45
WR
AS 43
CPUCLK 42
VSS 41
VSS 121
IN23 122 — IN16 129
VSS 130
OUT24 131 — OUT31 138
VSS 139
VDD 140
OUT32 141 — OUT39 148
IN25 149
VSS 150
IN26 151
IN24 152
OUT21 153 — OUT23 155
VP 156
CLR 157
PWR 158
PSC 159
VDD 160
VSS 1
TEST1 2
REST2 3
CS11 4
CS12 5
IN0 6 — IN3 9
VSS 10
CLK 11
DATA
LD — 19
VDD 20
CLK 21
DATA
LD — 23
EN 24
O-PORT 25
IN4 26 — IN7 29
VSS 30
OUT0 31 — OUT8 39
VDD 40

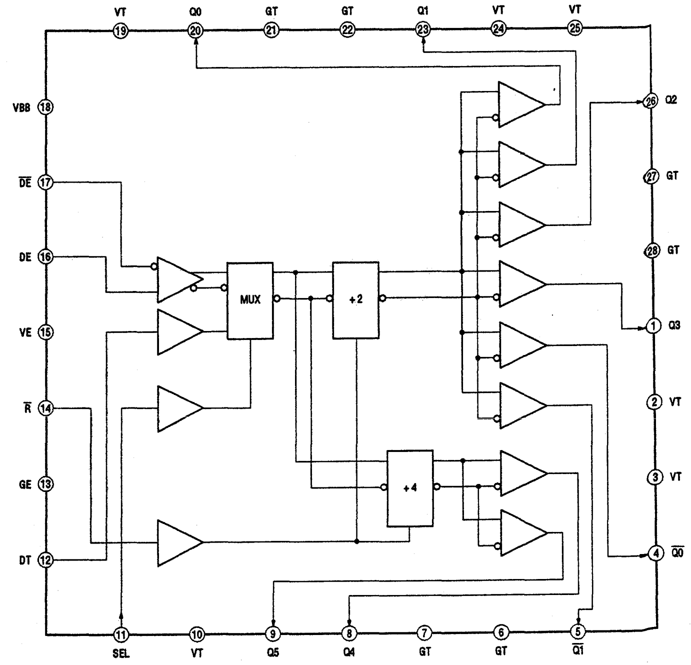
MB90091APF (IC409)


SERIAL INPUT CONTROL
DISPLAY MEMORY CONTROL
DISPLAY MEMORY (VRAM)
DOT CLOCK GENERATOR
RESET
COMMAND TABLE ROM CONTROL
COMMAND TABLE ROM
FONT ROM CONTROL
FONT ROM
DISPLAY DATA OUTPUT CONTROL
HSYNC 1
VSYNC 2
EVEN 3
FLT IN 4
AVSS 5
FLT OUT 6
AVCC 7
FH 8
RESET 9
VCC 10
RD0 11
RD1 12
RD2 13
RD3 14
RD4 15
RD5 16
RD6 17
RD7 18
TEST 19
VSS 20
TAI6 21
TAI7 22
TAI8 23
FSC 24
TCS 25
RA0 26
RA1 27
RA2 28
RA3 29
VCC 30
RA4 31
VSS 32
RA5 33
RA6 34
RA7 35
RA8 36
RA9 37
RA10 38
RA11 39
VSS 40
RA12 41
RA13 42
RA14 43
RA15 44
TSEL 45
FSEL 46
SCLK 47
SIN 48
SCS 49
VCC 50
TRE 51
R OUT 52
G OUT 53
B OUT 54
I OUT 55
VOB1 56
VOB2 57
COLOR 58
DOCK 59
VSS 60
TEST CK 61
TEST SW 62
HBLNK 63
VBLNK 64

MB86022PF (IC407)

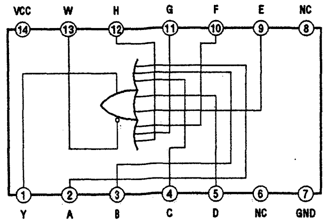

D0 1
D1 2
D2 3
D3 4
D4 5
D5 6
D6 7
D7 8
C0 9
C1 10
WR 11
CE 12
D0-D7
DATA LATCH
DAC
CHANNEL SELECT & CONTROL LOGIC
VR CIRCUIT
+
−
RESET 24
PD 23
VDD 22
VR2 21
VR1 20
AD0 19
AD1 18
AD2 17
AD3 16
NC 15
AGND 14
DGND 13

MC10H640FN (IC424)

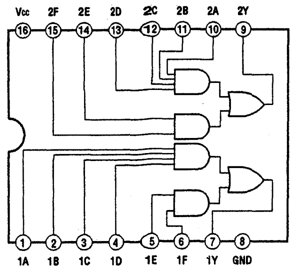

VT 19
Q0 20
GT 21
GT 22
Q1 23
VT 24
VT 25
VBB 18
DE 17
DE 16
VE 15
R 14
GE 13
DT 12
MUX
÷2
÷4
Q2 26
GT 27
GT 28
Q3 1
VT 2
VT 3
Q0 4
SEL 11
VT 10
Q5 9
Q4 8
GT 7
GT 6
Q1 5

SCHEMATIC DIAGRAM
← YO board

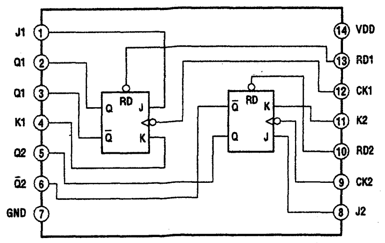
MC74HC4078F (IC429)


VCC
W
H
G
F
E
NC
Y
A
B
C
D
NC
GND

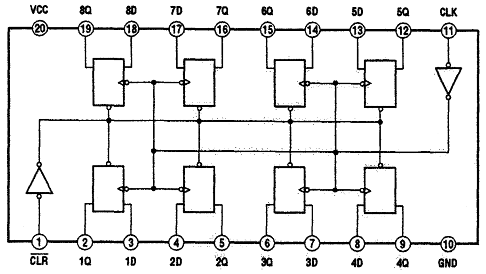
SN75123NS (IC418, 419)


Vcc
2F
2E
2D
2C
2B
2A
2Y
1A
1B
1C
1D
1E
1F
1Y
GND

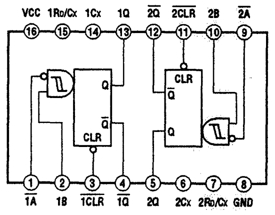
TC74HC107AF (IC420)


J1
Q1
Q1
K1
Q2
$\overline{Q}$2
GND
VDD
RD1
CK1
K2
RD2
CK2
J2
RD
Q
J
$\overline{Q}$
K
RD
$\overline{Q}$
K
Q
J

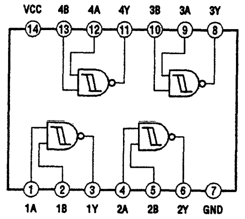
TC74HC273AF (IC112)


VCC
8Q
8D
7D
7Q
6Q
6D
5D
5Q
CLK
$\overline{CLR}$
1Q
1D
2D
2Q
3Q
3D
4D
4Q
GND

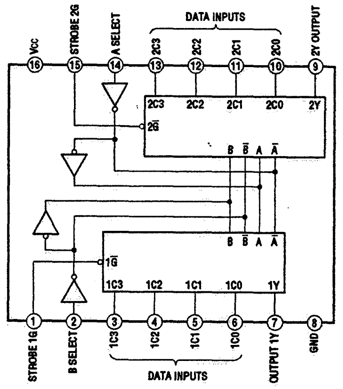
TC74VHC123F (IC426)


VCC
1Rᴅ/Cx
1Cx
1Q
$\overline{2Q}$
$\overline{2CLR}$
2B
$\overline{2A}$
Q
$\overline{Q}$
CLR
CLR
$\overline{Q}$
Q
$\overline{1A}$
1B
$\overline{1CLR}$
$\overline{1Q}$
2Q
2Cx
2Rᴅ/Cx
GND

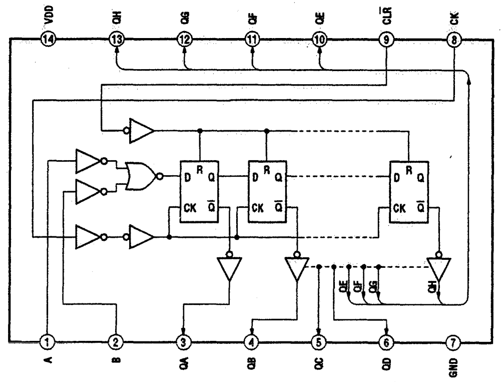
TC74VHC132F (IC421)


VCC
4B
4A
4Y
3B
3A
3Y
1A
1B
1Y
2A
2B
2Y
GND

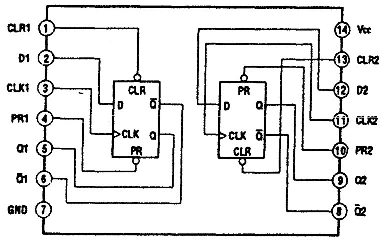
TC74VHC153F (IC415)


Vcc
STROBE 2G
A SELECT
DATA INPUTS
2C3
2C2
2C1
2C0
2Y OUTPUT
2C3
2C2
2C1
2C0
2Y
2$\overline{G}$
B
$\overline{B}$
A
$\overline{A}$
B
$\overline{B}$
A
$\overline{A}$
1$\overline{G}$
1C3
1C2
1C1
1C0
1Y
STROBE 1G
B SELECT
1C3
1C2
1C1
1C0
DATA INPUTS
OUTPUT 1Y
GND

TC74VHC164F (IC414)


VDD
QH
QG
QF
QE
CL$\overline{R}$
CK
D
R
Q
CK
$\overline{Q}$
D
R
Q
CK
$\overline{Q}$
D
R
Q
CK
$\overline{Q}$
QE
QF
QG
QH
A
B
QA
QB
QC
QD
GND

TC74VHC74F (IC425)

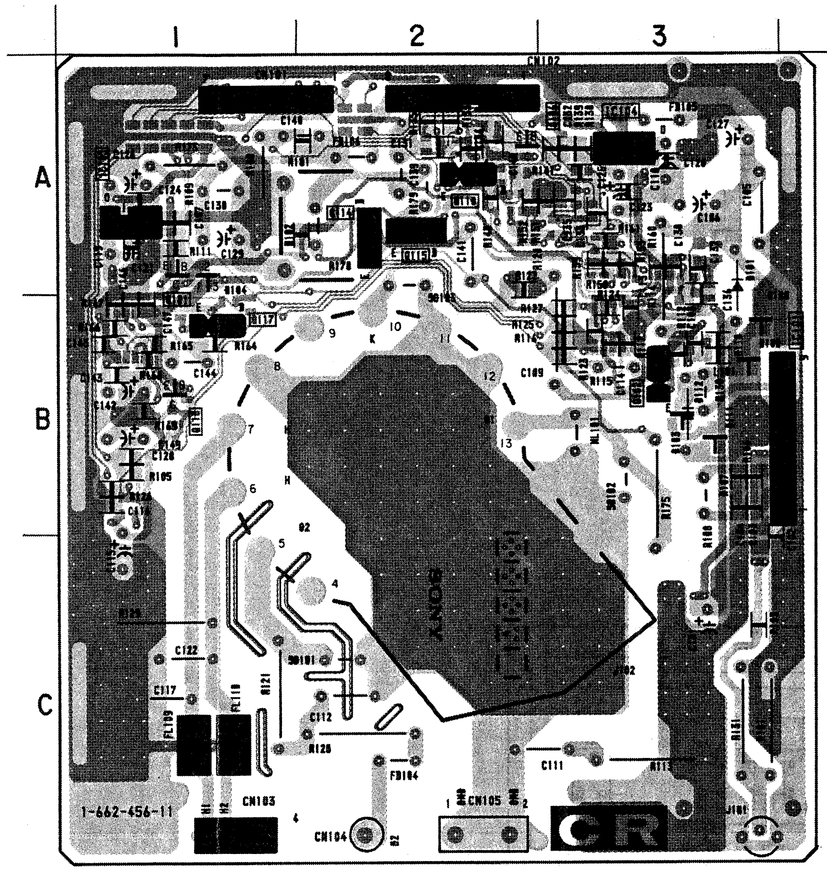

CLR1
D1
CLK1
PR1
Q1
$\overline{Q}$1
GND
Vcc
CLR2
D2
CLK2
PR2
Q2
$\overline{Q}$2
CLR
D
$\overline{Q}$
CLK
Q
PR
PR
D
Q
CLK
$\overline{Q}$
CLR

CR (R VIDEO OUT) BOARD

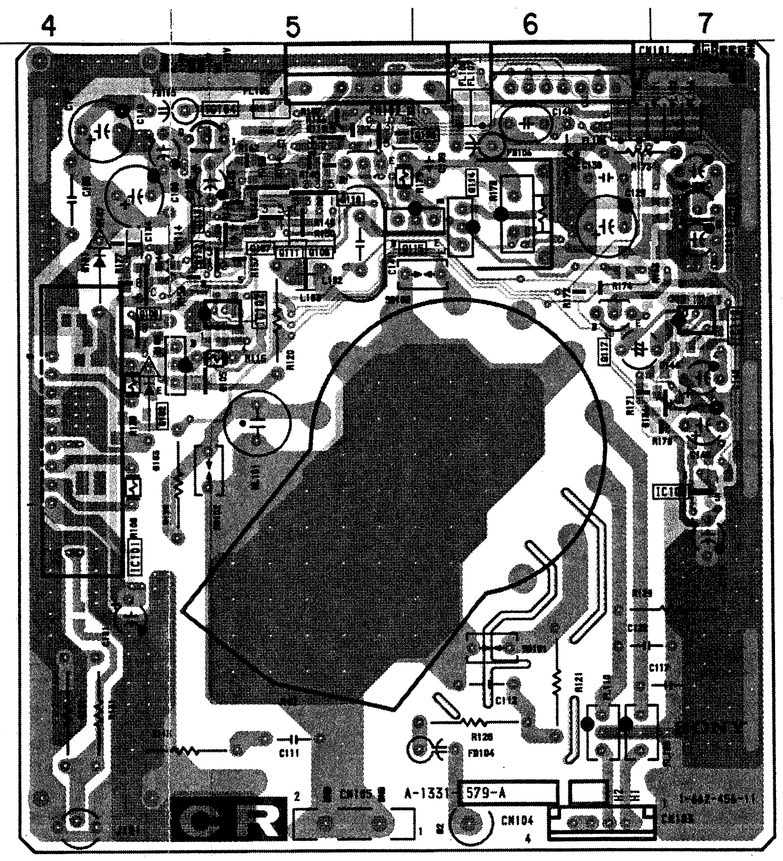
CR BOARD
Semiconductor Location

DIODE	
D101	A-3
D102	B-4
D103	B-3
D104	A-1
D105	B-5
D106	B-7
D110	A-5
IC	
IC101	B-4
IC102	B-5
IC103	B-7
IC104	A-3
IC105	A-1
IC110	B-7
TRANSISTOR	
Q101	A-1
Q102	B-3
Q105	A-5
Q106	A-2
Q107	A-5
Q108	A-5
Q109	B-4
Q110	A-2
Q111	A-5
Q112	A-5
Q113	A-5
Q114	A-2
Q115	A-2
Q117	B-1
Q118	B-1

— CR BOARD — <Conductor side>

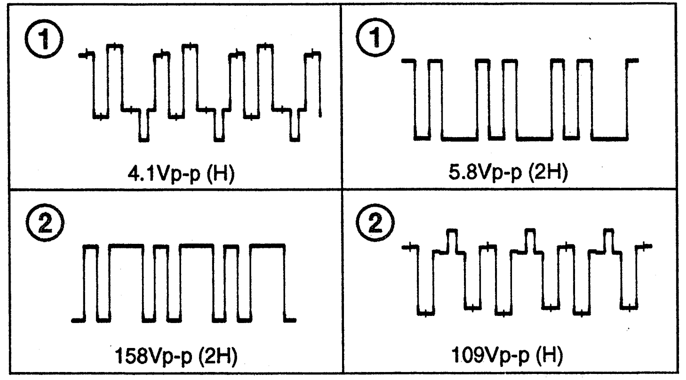

1
2
3
A
B
C
CN101
CN102
CN103
CN104
CN105
1-662-456-11
SONY
CR

— CR BOARD — <Component side>


4
5
6
7
A-1331-579-A
1-662-456-11
CN104
SONY
CR

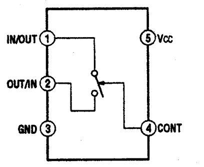
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

CR Board Waveforms

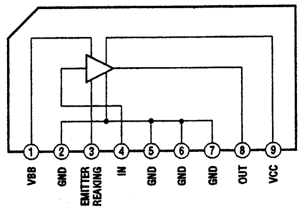


CR, CG and CB Board IC Block Diagrams

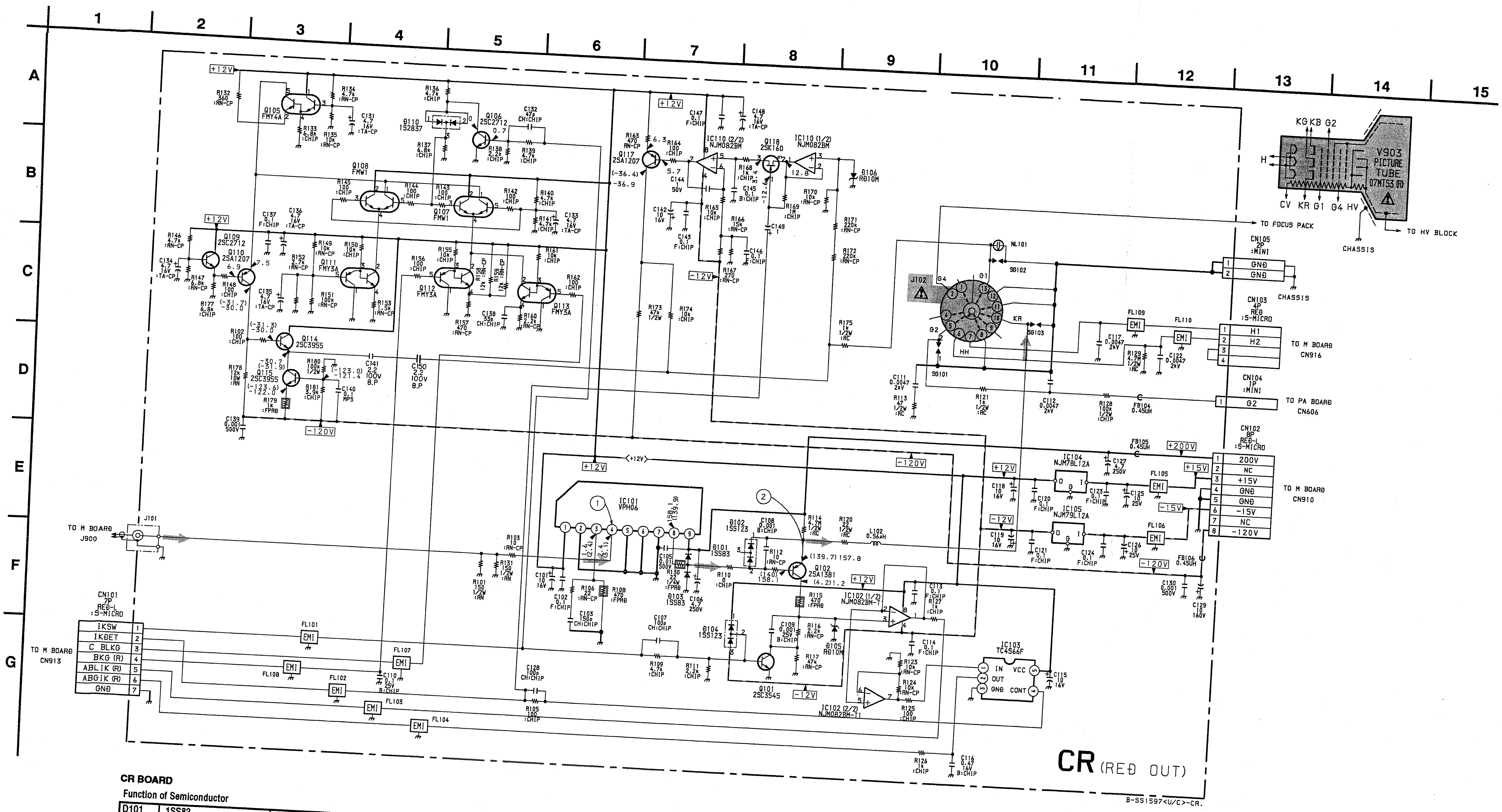
TC4S66F (IC103, 203, 303)


IN/OUT ①
OUT/IN ②
GND ③
⑤ Vcc
④ CONT

VPH06 (IC101, 201, 301)


① VBB
② GND
③ EMITTER REAKING
④ IN
⑤ GND
⑥ GND
⑦ GND
⑧ OUT
⑨ VCC

• CR (R VIDEO OUT) DIAGRAM


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
A B C D E F G
TO M BOARD J900
J101
CN101 7P REB-L :S-MICRO
IKSW 1
IKDET 2
C BLKG 3
BKG (R) 4
ABLIK (R) 5
ABGIK (R) 6
GND 7
TO M BOARD CN913
IC101 VPH06
IC102 NJM082BM-T1
IC103 TC4S66F
IC104 NJM78L12A
IC105 NJM79L12A
IC110 NJM082BM
V903 PICTURE TUBE 07MTS3 (R)
KG KB G2
CV KR G1 G4 HV
TO FOCUS PACK
TO HV BLOCK
CHASSIS
J102
NL101
CN105 2P :MINI
GND
GND
CN103 4P REB :S-MICRO
H1
H2
TO M BOARD CN916
CN104 1P :MINI
G2
TO PA BOARD CN606
CN102 8P REB-L :S-MICRO
200V
NC
+15V
GND
GND
-15V
NC
-120V
TO M BOARD CN910
+12V
-12V
+15V
-15V
+200V
-120V
CR (RED OUT)
B-SS1597<U/C>-CR.

CR BOARD

Function of Semiconductor

D101	1SS83	IC PROT	IC103	TC4S66F	SAMPLE HOLD	Q108	FMW1	ABG LEVEL
D102	1SS123	IK DET PROT	IC104	NJM78L12A	+12V REG	Q109	2SC2712-YG	G1 AMP
D103	1SS83	IC PROT	IC105	NJM79L12A	–12V REG	Q110	2SA1207-AA	G1 AMP
D104	1SS123	TR PROT	IC110	NJM082BM-T1	BUFFER, BRT. COMP.	Q111	FMY3A-T148	ABG LEVEL
D105	RD10M-B2	IC PROT				Q112	FMY3A-T148	BRT LEVEL
D106	RD10M-B2	IC PROT	Q101	2SC3545-T1T44	IK DET SW	Q113	FMY3A-T148	BLKG LEVEL
D110	1S2837	PROT	Q102	2SA1381-E	IK DET	Q114	2SC3955-DE	BUFFER
			Q105	FMY4A-T148	G1 AMP	Q115	2SC3955-DE	CURRENT SOURCE
IC101	VPH06	VIDEO AMP	Q106	2SC2712-YG	BUFFER	Q117	2SA1207-AA	BRT CLAMP
IC102	NJM082BM-T1	ABL IK AMP	Q107	FMW1	BRT AND BLKG LEVEL	Q118	2SK160-K5	BRT SAMPLE HOLD

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

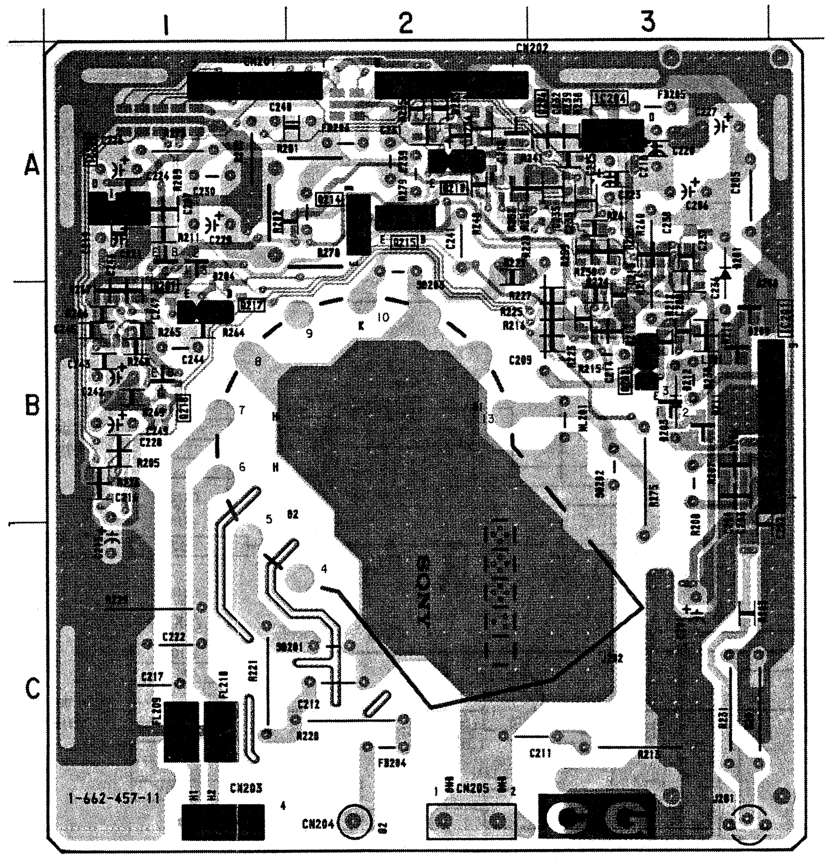
Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

CG (G VIDEO OUT) BOARD

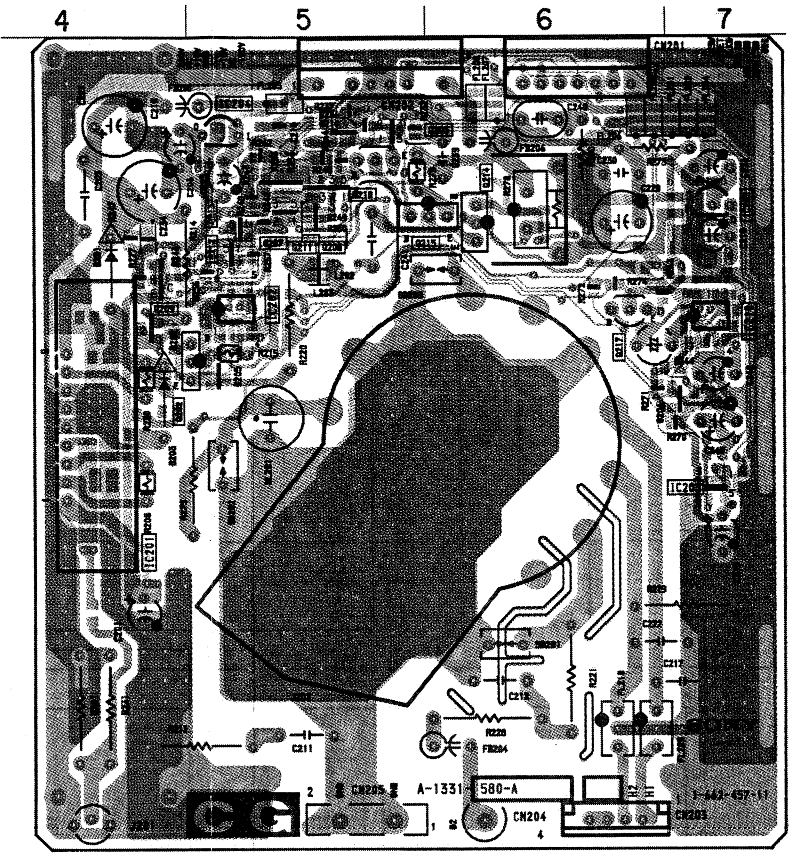
CG BOARD
Semiconductor Location

DIODE	
D201	A-3
D202	B-4
D203	B-3
D204	A-1
D205	B-5
D206	B-7
D210	A-5
IC	
IC201	B-4
IC202	B-5
IC203	B-7
IC204	A-3
IC205	A-1
IC210	B-7
TRANSISTOR	
Q201	A-1
Q202	B-3
Q205	A-5
Q206	A-2
Q207	A-5
Q208	A-5
Q209	B-4
Q210	A-2
Q211	A-5
Q212	A-5
Q213	A-5
Q214	A-2
Q215	A-2
Q217	B-1
Q218	B-1

— CG BOARD — <Conductor side>

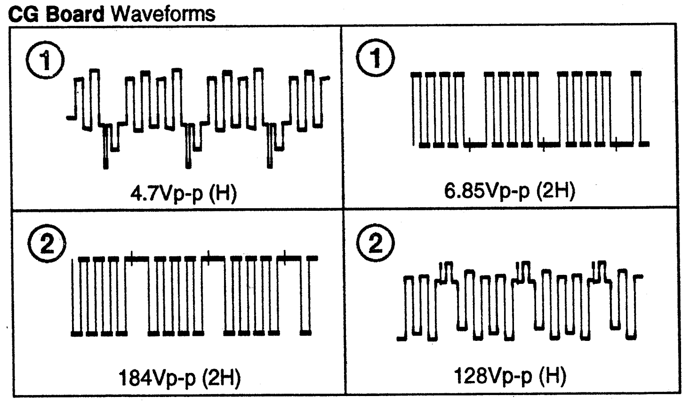

1
2
3
A
B
C
SONY
1-662-457-11
CN203
CN204
CN205
CG

— CG BOARD — <Component side>


4
5
6
7
A-1331-580-A
1-662-457-11
CN204
CN205
CN203
CG

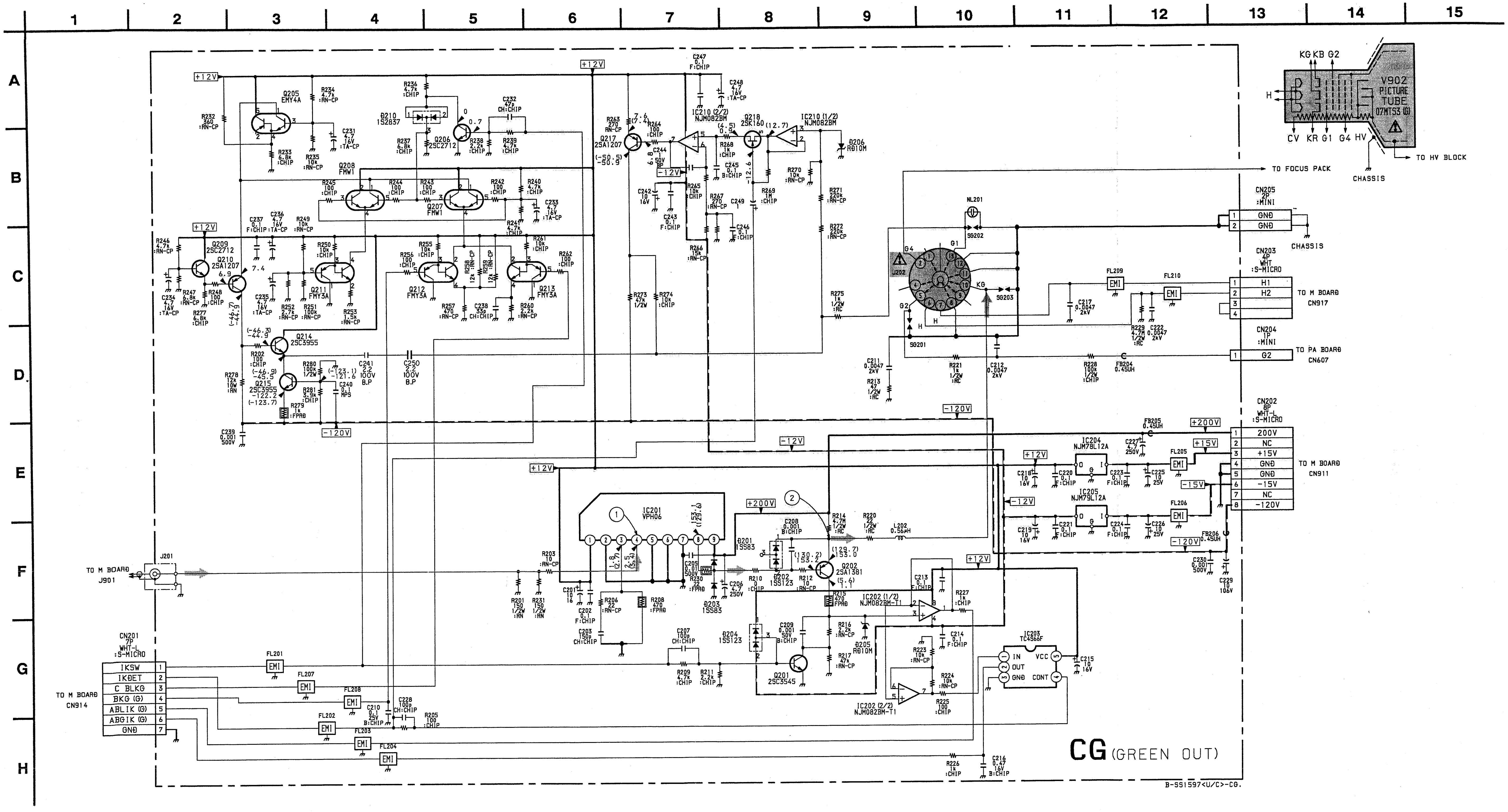
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

CG Board Waveforms



Schematic Diagram
← CR board

- **CG (G VIDEO OUT) DIAGRAM**
- Refer to page 4-104 for IC Block Diagrams


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
V902 PICTURE TUBE 07MTS3 (G)
KG KB G2
CV KR G1 G4 HV
TO HV BLOCK
TO FOCUS PACK
CHASSIS
CN205 2P :MINI
GND
GND
CN203 4P WHT :S-MICRO
H1
H2
TO M BOARD CN917
CN204 1P :MINI
G2
TO PA BOARD CN607
CN202 8P WHT-L :S-MICRO
200V
NC
+15V
GND
GND
-15V
NC
-120V
TO M BOARD CN911
TO M BOARD J901
J201
CN201 7P WHT-L :S-MICRO
IKSW
IKDET
C BLKG
BKG (G)
ABLIK (G)
ABGIK (G)
GND
TO M BOARD CN914
IC201 VPH06
IC202 (1/2) NJM082BM-T1
IC202 (2/2) NJM082BM-T1
IC203 TC4S66F
IC204 NJM78L12A
IC205 NJM79L12A
IC210 (1/2) NJM082BM
IC210 (2/2) NJM082BM
+12V
-12V
+200V
-120V
+15V
-15V
CG (GREEN OUT)
B-SS1597<U/C>-CG.

CG BOARD

Function of Semiconductor

D201	1SS83	IC PROT	IC203	TC4S66F	SAMPLE HOLD	Q208	FMW1	ABG LEVEL
D202	1SS123	IK DET PROT	IC204	NJM78L12A	+12V REG	Q209	2SC2712-YG	G1 AMP
D203	1SS83	IC PROT	IC205	NJM79L12A	–12V REG	Q210	2SA1207-AA	G1 AMP
D204	1SS123	TR PROT	IC210	NJM082BM-T1	BUFFER, BRT. COMP	Q211	FMY3A-T148	ABG LEVEL
D205	RD10M-B2	IC PLOT				Q212	FMY3A-T148	BRT LEVEL
D206	RD10M-B2	IC PLOT	Q201	2SC3545-T1T44	IK DET SW	Q213	FMY3A-T148	BLKG LEVEL
D210	1S2837	PLOT	Q202	2SA1381-E	IK DET	Q214	2SC3955-DE	BUFFER
			Q205	FMY4A-T148	G1 AMP	Q215	2SC3955-DE	CURRENT SOURCE
IC201	VPH06	VIDEO AMP	Q206	2SC2712-YG	BUFFER	Q217	2SA1207-AA	BRT CLAMP
IC202	NJM082BM-T1	ABL IK AMP	Q207	FMW1	BRT AND BLKG LEVEL	Q218	2SK160-K5	BRT SAMPLE HOLD

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

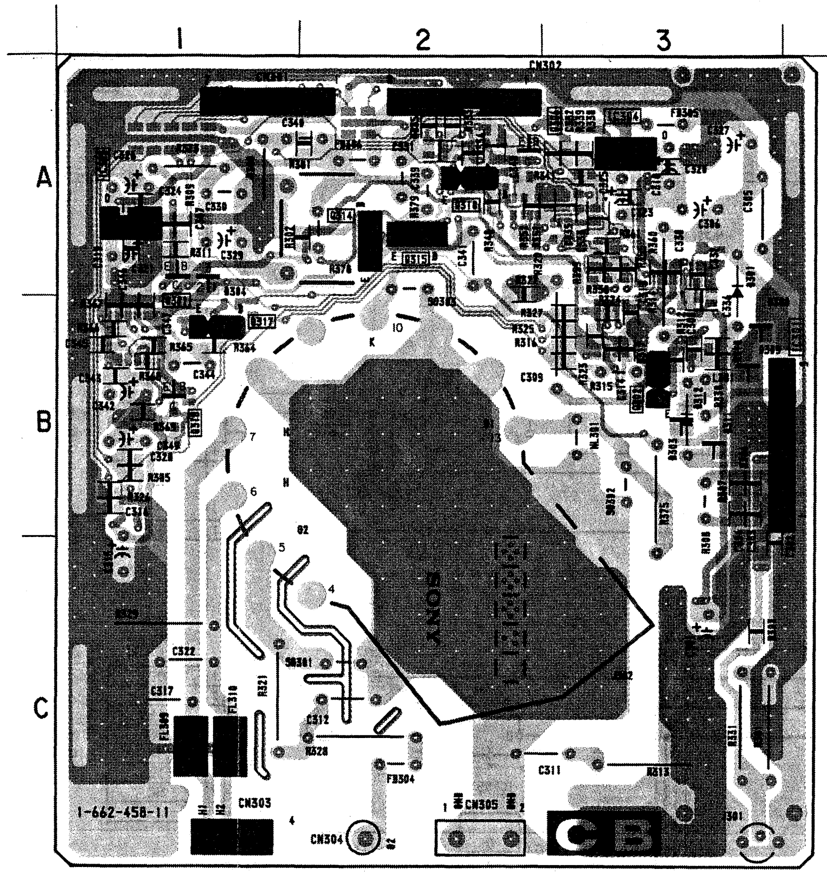
Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

CB (B VIDEO OUT) BOARD

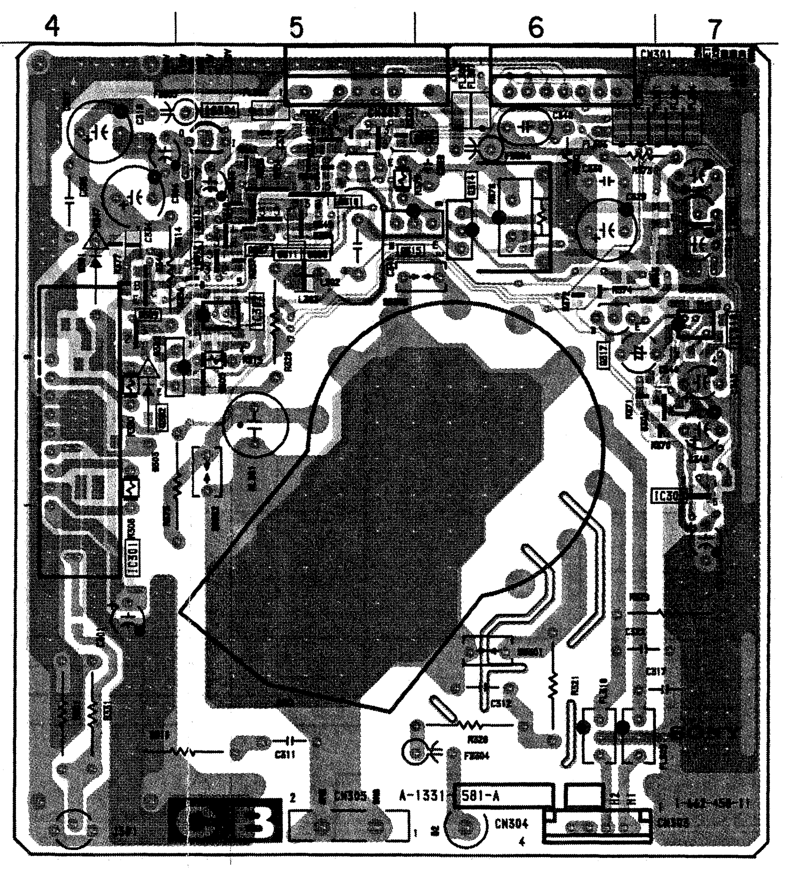
CB BOARD
Semiconductor Location

DIODE	
D301	A-3
D302	B-4
D303	B-3
D304	A-1
D305	B-5
D306	B-7
D310	A-5
IC	
IC301	B-4
IC302	B-5
IC303	B-7
IC304	A-3
IC305	A-1
IC310	B-7
TRANSISTOR	
Q301	A-1
Q302	B-3
Q305	A-5
Q306	A-2
Q307	A-5
Q308	A-5
Q309	B-4
Q310	A-2
Q311	A-5
Q312	A-5
Q313	A-5
Q314	A-2
Q315	A-2
Q317	B-2
Q318	B-2

— CB BOARD — <Conductor side>

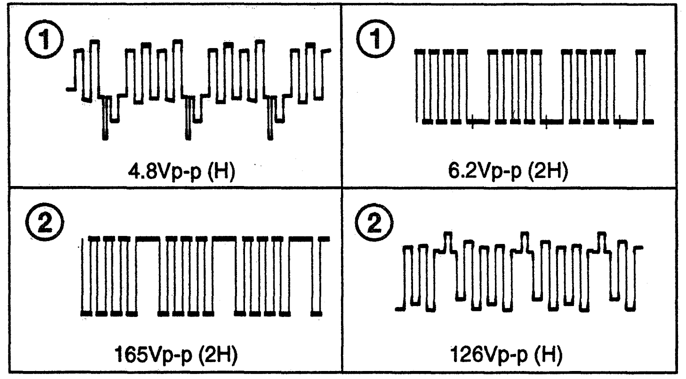

1
2
3
A
B
C
CN302
1-662-458-11
CN303
CN304
CN305
FB304
C311
SONY
CB

— CB BOARD — <Component side>


4
5
6
7
CN301
CN304
CN305
A-1331-581-A
1-662-458-11
CB

- ▨ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side.

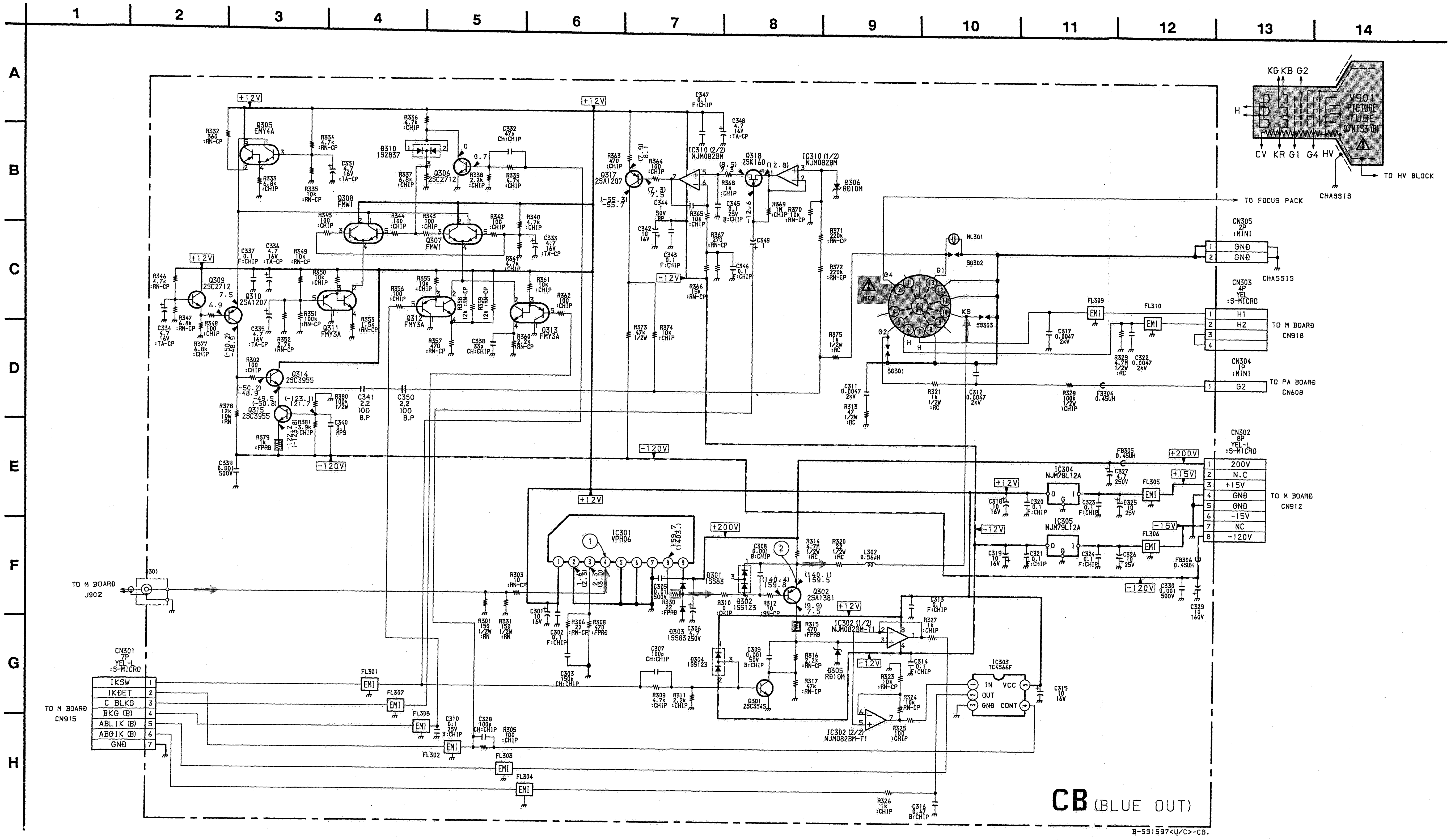
CB Board Waveforms



Schematic Diagram
← CG board

• CB (B VIDEO OUT) DIAGRAM

• Refer to page 4-?? for IC Block Diagrams


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
V901 PICTURE TUBE 07MTS3 (B)
KG KB G2
CV KR G1 G4 HV
TO HV BLOCK
CHASSIS
TO FOCUS PACK
CN305 2P :MINI
GND
GND
CN303 4P YEL :S-MICRO
H1
H2
TO M BOARD CN918
CN304 1P :MINI
G2
TO PA BOARD CN608
CN302 8P YEL-L :S-MICRO
200V
N.C
+15V
GND
GND
-15V
NC
-120V
TO M BOARD CN912
IC304 NJM78L12A
IC305 NJM79L12A
IC301 VPH06
IC302 (1/2) NJM082BM-T1
IC302 (2/2) NJM082BM-T1
IC303 TC4S66F
IC310 (1/2) NJM082BM
IC310 (2/2) NJM082BM
Q305 EMY4A
Q306 2SC2712
Q307 FMW1
Q308 FMW1
Q309 2SC2712
Q310 2SA1207
Q311 FMY3A
Q312 FMY3A
Q313 FMY3A
Q314 2SC3955
Q315 2SC3955
Q317 2SA1207
Q318 2SK160
Q301 2SC3545
Q302 2SA1381
TO M BOARD J902
CN301 7P YEL-L :S-MICRO
IKSW
IKDET
C BLKG
BKG (B)
ABLIK (B)
ABGIK (B)
GND
TO M BOARD CN915
+12V
-12V
-120V
+200V
+15V
-15V
CB (BLUE OUT)
B-SS1597<U/C>-CB.

CB BOARD

Function of Semiconductor

D301	1SS83	IC PROT	IC303	TC4S66F	SAMPLE HOLD	Q308	FMW1	ABG LEVEL
D302	1SS123	IK DET PROT	IC304	NJM78L12A	+12V REG	Q309	2SC2712-YG	G1 AMP
D303	1SS83	IC PLOT	IC305	NJM79L12A	–12V REG	Q310	2SA1207	G1 AMP
D304	1SS123	TR PLOT	IC310	NJM082BM-T1	BUFFER, BRT. COMP.	Q311	FMY3A-T148	ABG LEVEL
D305	RD10M-B2	IC PLOT				Q312	FMY3A-T148	BRT LEVEL
D306	RD10M-B2	IC PLOT	Q301	2SC3545-T1T44	IK DET SW	Q313	FMY3A-T148	BLKG LEVEL
D310	1S2837	PLOT	Q302	2SA1381-E	IK DET	Q314	2SC3955-DE	BUFFER
			Q305	FMY4A-T148	G1 AMP	Q315	2SC3955-DE	CURRENT SOURCE
IC301	VPH06	VIDEO AMP	Q306	2SC2712-YG	BUFFER	Q317	2SA1207	BRT CLAMP
IC302	NJM082BM-T1	ABL IK AMP	Q307	FMW1	BRT AND BLKG LEVEL	Q318	2SK160-K5	BRT SAMPLE HOLD

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

D BOARD
Semiconductor Location

DIODE		TEST POINT	
D1	A-7	TP1	D-3
D2	A-7	TP2	D-3
D3	A-3	TP3	D-2
D4	B-3	TP9	C-2
D5	A-2	TP201	F-4
D6	B-2	TP202	F-4
D7	A-1	TP203	G-4
D8	B-1	TP204	G-4
D9	D-2	TP205	G-4
D10	C-2	TP206	G-4
D15	D-3		

IC	
IC1	A-7
IC2	A-7
IC3	B-3
IC4	A-3
IC5	B-2
IC6	A-2
IC7	B-1
IC8	A-1
IC9	B-2
IC10	F-5
IC11	F-6
IC12	F-6
IC13	F-6
IC201	F-1
IC202	E-1
IC203	D-1
IC204	A-5
IC205	G-6

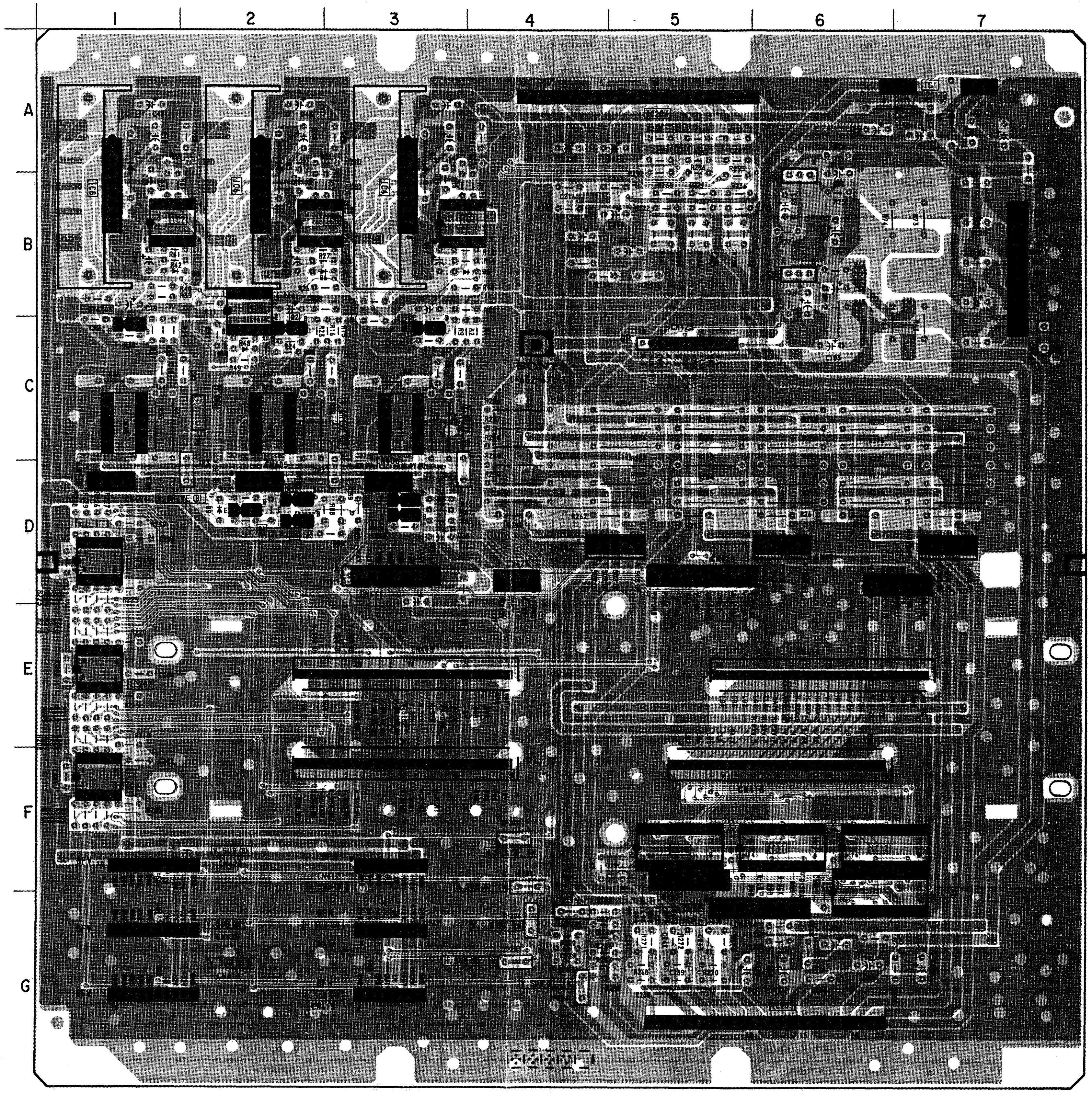
TRANSISTOR	
Q1	C-3
Q2	C-2
Q3	C-1
Q4	D-2
Q5	D-2
Q6	D-2
Q7	B-6
Q9	B-6
Q12	D-3
Q13	D-3

Schematic Diagram

← **CB** **board**

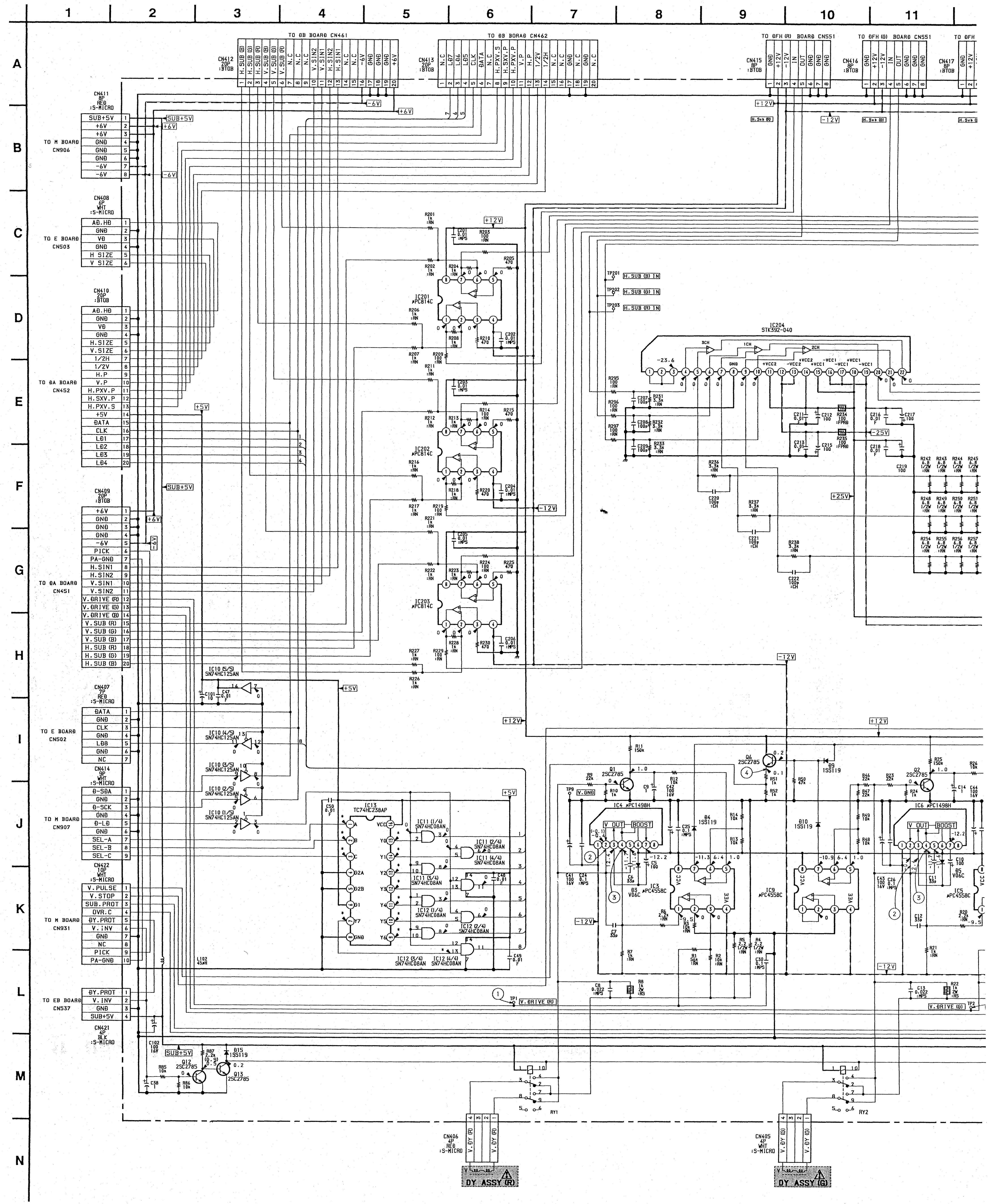
D (V OUT, H/V SUB OUT) BOARD

— D BOARD — <Conductor side>



- ▨: Pattern from the side which enables seeing.
- ▨: Pattern of the rear side.

- **D (V OUT, H/V SUB OUT) DIAGRAM**
- Refer to page 4-120 for Waveforms
- Refer to page 4-120 for Function of Semiconductor
- Refer to page 4-120 for IC Block Diagrams



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A
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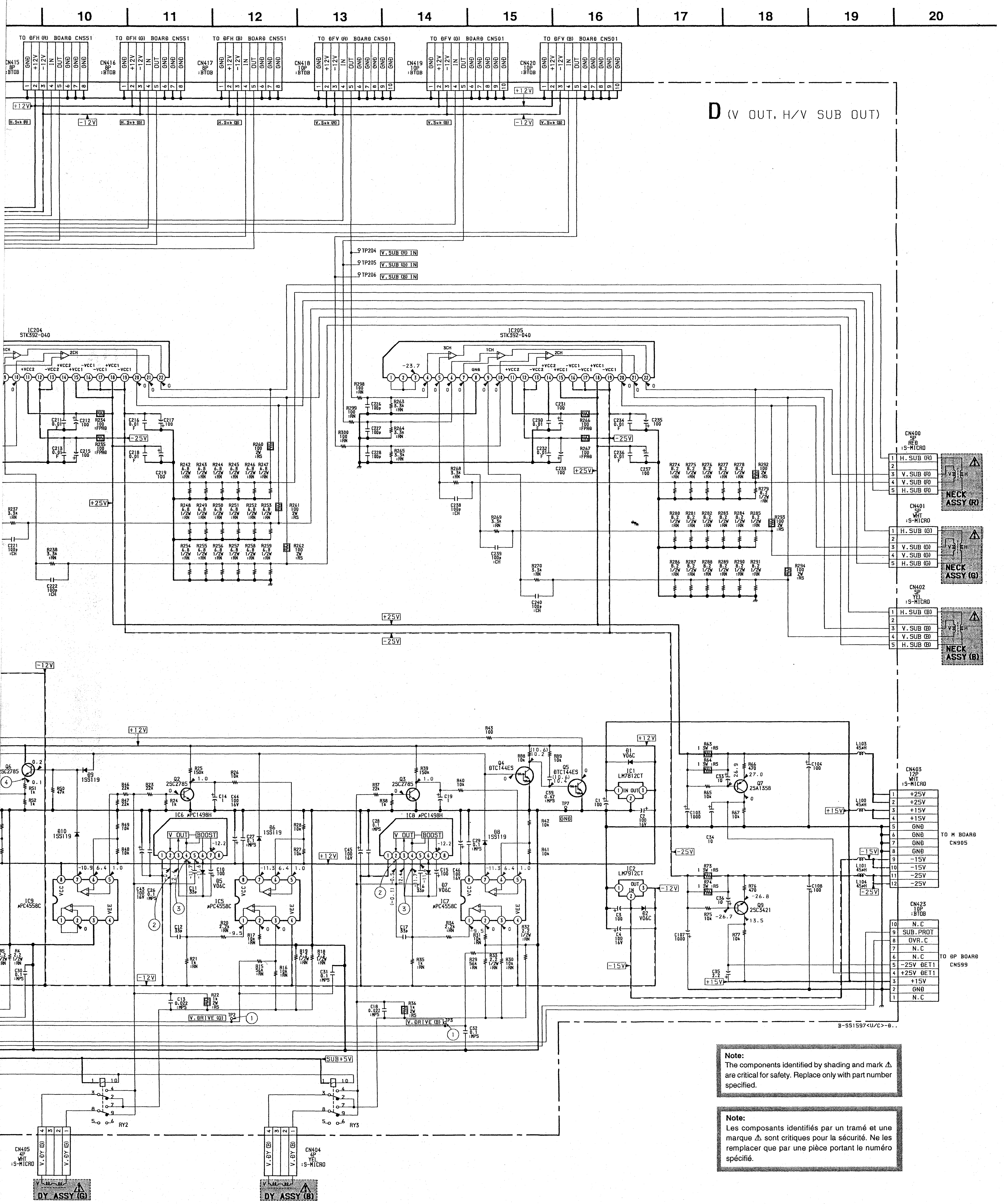
G
H
I
J
K
L
M
N
TO ƟB BOARD CN461
CN412 20P :BTOB
H.SUB (B)
H.SUB (G)
H.SUB (R)
V.SUB (B)
V.SUB (G)
V.SUB (R)
N.C
V.SIN2
V.SIN1
H.SIN2
H.SIN1
-6V
GND
+6V
TO ƟB BORAD CN462
CN413 20P :BTOB
LƟ7
LƟ6
LƟ5
CLK
ƟATA
H.PXV.S
H.SXV.P
H.PXV.P
V.P
H.P
1/2V
1/2H
TO ƟFH (R) BOARD CN551
CN415 8P :BTOB
+12V
-12V
IN
OUT
TO ƟFH (G) BOARD CN551
CN416 8P :BTOB
CN417 8P :BTOB
TO M BOARD CN906
CN411 8P RED :S-MICRO
SUB+5V
TO E BOARD CN503
CN408 6P WHT :S-MICRO
AƟ.HD
VƟ
H SIZE
V SIZE
TO ƟA BOARD CN452
CN410 20P :BTOB
H.SIZE
V.SIZE
+5V
DATA
LƟ1
LƟ2
LƟ3
LƟ4
TO ƟA BOARD CN451
CN409 20P :BTOB
PICK
PA-GND
V.ƟRIVE (R)
V.ƟRIVE (G)
V.ƟRIVE (B)
TO E BOARD CN502
CN407 7P RED :S-MICRO
LƟB
NC
TO M BOARD CN907
CN414 9P WHT :S-MICRO
Ɵ-SƟA
Ɵ-SCK
Ɵ-LƟ
SEL-A
SEL-B
SEL-C
TO M BOARD CN931
CN422 10P WHT :S-MICRO
V.PULSE
V.STOP
SUB.PROT
OVR.C
ƟY.PROT
V.INV
TO EB BOARD CN537
CN421 4P BLK :S-MICRO
IC201 μPC814C
IC202 μPC814C
IC203 μPC814C
IC204 STK392-040
H.SUB (B) IN
H.SUB (G) IN
H.SUB (R) IN
IC10 (5/5) SN74HC125AN
IC10 (4/5) SN74HC125AN
IC10 (3/5) SN74HC125AN
IC10 (2/5) SN74HC125AN
IC10 (1/5) SN74HC125AN
IC13 TC74HC238AP
IC11 (1/4) SN74HC08AN
IC11 (2/4) SN74HC08AN
IC11 (3/4) SN74HC08AN
IC11 (4/4) SN74HC08AN
IC12 (1/4) SN74HC08AN
IC12 (2/4) SN74HC08AN
IC12 (3/4) SN74HC08AN
IC12 (4/4) SN74HC08AN
IC4 μPC1498H
IC6 μPC1498H
IC3 μPC4558C
IC9 μPC4558C
IC5 μPC4558C
Q1 2SC2785
Q2 2SC2785
Q6 2SC2785
Q12 2SC2785
Q13 2SC2785
V OUT
BOOST
V.GND
V.ƟRIVE (R)
V.ƟRIVE (G)
RY1
RY2
CN406 4P RED :S-MICRO
CN405 4P WHT :S-MICRO
V.ƟY (R)
V.ƟY (G)
DY ASSY (R)
DY ASSY (G)
+12V
-12V
+25V
-25V
+5V
+6V
-6V

D (V OUT, H/V SUB OUT)


10
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TO ØFH (R) BOARD CN551
TO ØFH (G) BOARD CN551
TO ØFH (B) BOARD CN551
TO ØFV (R) BOARD CN501
TO ØFV (G) BOARD CN501
TO ØFV (B) BOARD CN501
CN415 8P :BTOB
CN416 8P :BTOB
CN417 8P :BTOB
CN418 10P :BTOB
CN419 10P :BTOB
CN420 10P :BTOB
GND
+12V
-12V
IN
OUT
+12V
-12V
H.Sub (R)
H.Sub (G)
H.Sub (B)
V.Sub (R)
V.Sub (G)
V.Sub (B)
TP204 V.SUB (R) IN
TP205 V.SUB (G) IN
TP206 V.SUB (B) IN
IC204 STK392-040
IC205 STK392-040
1CH
2CH
3CH
+VCC2
-VCC2
+VCC1
-VCC1
+25V
-25V
CN400 5P RED :S-MICRO
CN401 5P WHT :S-MICRO
CN402 5P YEL :S-MICRO
H.SUB (R)
V.SUB (R)
H.SUB (G)
V.SUB (G)
H.SUB (B)
V.SUB (B)
NECK ASSY (R)
NECK ASSY (G)
NECK ASSY (B)
CN403 12P WHT :S-MICRO
+25V
+15V
GND
-15V
-25V
TO M BOARD CN905
CN423 10P :BTOB
N.C
SUB.PROT
OVR.C
-25V DET1
+25V DET1
TO DP BOARD CN599
IC1 LM7812CT
IC2 LM7912CT
Q7 2SA1358
Q9 2SC3421
Q4 DTC144ES
Q5 DTC144ES
Q2 2SC2785
Q3 2SC2785
Q6 2SC2785
IC6 µPC1498H
IC8 µPC1498H
V OUT
BOOST
IC5 µPC4558C
IC7 µPC4558C
IC9 µPC4558C
VCC
VEE
D6 1SS119
D8 1SS119
D9 1SS119
D10 1SS119
D5 V06C
D7 V06C
D1 V06C
D2 V06C
L100 45µH
L101 45µH
L103 45µH
L104 45µH
V.DRIVE (G) TP2
V.DRIVE (B) TP3
SUB+5V
RY2
RY3
CN405 4P WHT :S-MICRO
CN404 4P YEL :S-MICRO
V.DY (G)
V.DY (B)
DY ASSY (G)
DY ASSY (B)
B-SS1597<U/C>-0..

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

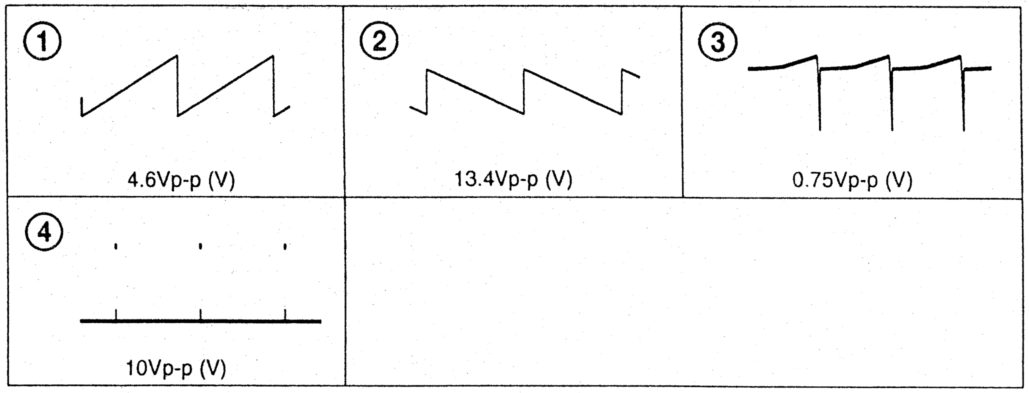
Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

D BOARD

Function of Semiconductor

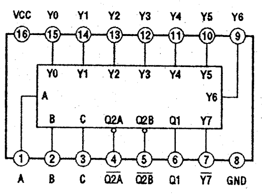
D1	V06C	+12V REG PROT
D2	V06C	–12V REG PROT
D3	V06C	PULSE CHARGE-1
D4	1SS119-25	GATE-1
D5	V06C	PULSE CHARGE-2
D6	1SS119-25	GATE-2
D7	V06C	PULSE CHARGE-3
D8	1SS119-25	GATE-3
D9	1SS119-25	GATE-4
D10	1SS119-25	GATE-5
D15	1SS119-25	DISCHARGE
IC1	M7812CT	+12V REG
IC2	LM7912CT	–12V REG
IC3	UPC4558C	R-VIDEO AMP
IC4	UPC1498H	R-VIDEO OUT
IC5	UPC4558C	G-VIDEO AMP
IC6	UPC1498H	G-VIDEO OUT
IC7	UPC4558C	B-VIDEO AMP
IC8	UPC1498H	B-VIDEO OUT
IC9	UPC4558C	V.PULSE GEN
IC10	SN74HC125AN	BUS BUFFER
IC11	SN74HC08AN	LD AND 1
IC12	SN74HC08AN	LD AND 2
IC13	TC74HC238AP	LD SELECT
IC201	UPC814C	R-SUB MATRIX
IC202	UPC814C	G-SUB MATRIX
IC203	UPC814C	B-SUB MATRIX
IC204	STK392-040	H-SUB OUT
IC205	STK392-040	V-SUB OUT
Q1	2SC2785-HFE	V.PULSE DET-1
Q2	2SC2785-HFE	V.PULSE DET-2
Q3	2SC2785-HFE	V.PULSE DET-3
Q4	DTC144ESA-TP	V.STOP CONT SW-1
Q5	DTC144ESA-TP	V.STOP CONT SW-2
Q6	2SC2785-HFE	V.PULSE BUFF
Q7	2SA1358-Y	+25V CURRENT DET
Q9	2SC3421-Y	–25V CURRENT DET
Q12	2SC2785-HFE	RELAY DRIVE-1
Q13	2SC2785-HFE	RELAY DRIVE-2

D Board Waveforms



D Board IC Block Diagram

TC74HC238AP (IC13)



DA BOARD

Semiconductor Location

DIODE	
D1	C-4
D2	C-3
D3	C-4
D4	C-2
D5	A-7
D6	A-7

IC	
IC1	D-4
IC2	C-3
IC3	C-4
IC4	C-6
IC5	C-2
IC6	B-5
IC7	A-3
IC8	A-5
IC9	A-6
IC10	A-6
IC11	A-6
IC12	B-6
IC13	B-6
IC14	B-7
IC15	A-7
IC16	B-7
IC17	A-8
IC18	E-5
IC19	E-5
IC20	E-5
IC21	F-5
IC22	F-5
IC201	D-5
IC202	D-6
IC203	D-7
IC204	D-7
IC205	D-8
IC206	E-6
IC207	E-7
IC208	E-7
IC209	E-8
IC301	E-6
IC302	E-7
IC303	E-7
IC304	E-8
IC305	F-6
IC306	F-7
IC307	F-7
IC308	F-8

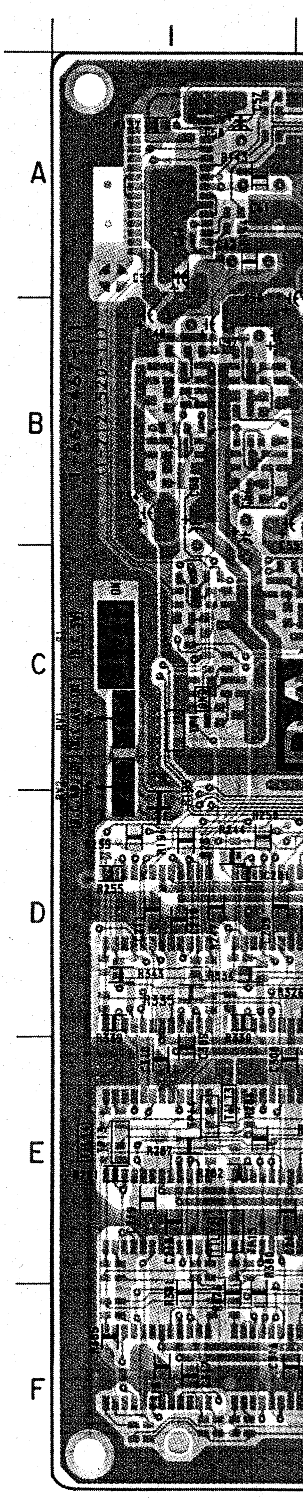
TRANSISTOR	
Q1	A-5
Q2	A-5
Q3	A-4
Q4	A-4
Q5	B-8
Q6	B-8
Q7	B-7
Q8	B-7
Q9	B-8
Q10	B-8
Q11	B-7
Q12	B-7
Q13	C-8
Q14	C-7
Q15	C-7
Q16	C-7
Q17	C-7
Q18	C-7
Q19	C-7
Q20	C-7
Q22	B-6

VARIABLE RESISTOR	
RV1	C-1
RV2	C-1

TEST POINT	
TP1	C-1
TP2	C-4
TP3	C-4
TP4	C-4
TP6	A-3
TP7	E-2
TP8	A-3
TP9	A-3
TP10	A-4
TP11	B-4
TP12	F-2
TP13	E-1
TP14	E-1
TP15	E-1
TP16	E-2
TP17	E-2
TP18	E-2
TP19	E-3
TP20	E-4
TP21	E-4
TP22	E-4
TP23	E-4
TP24	E-4
TP25	E-4
TP26	E-4
TP27	F-4
TP28	F-4

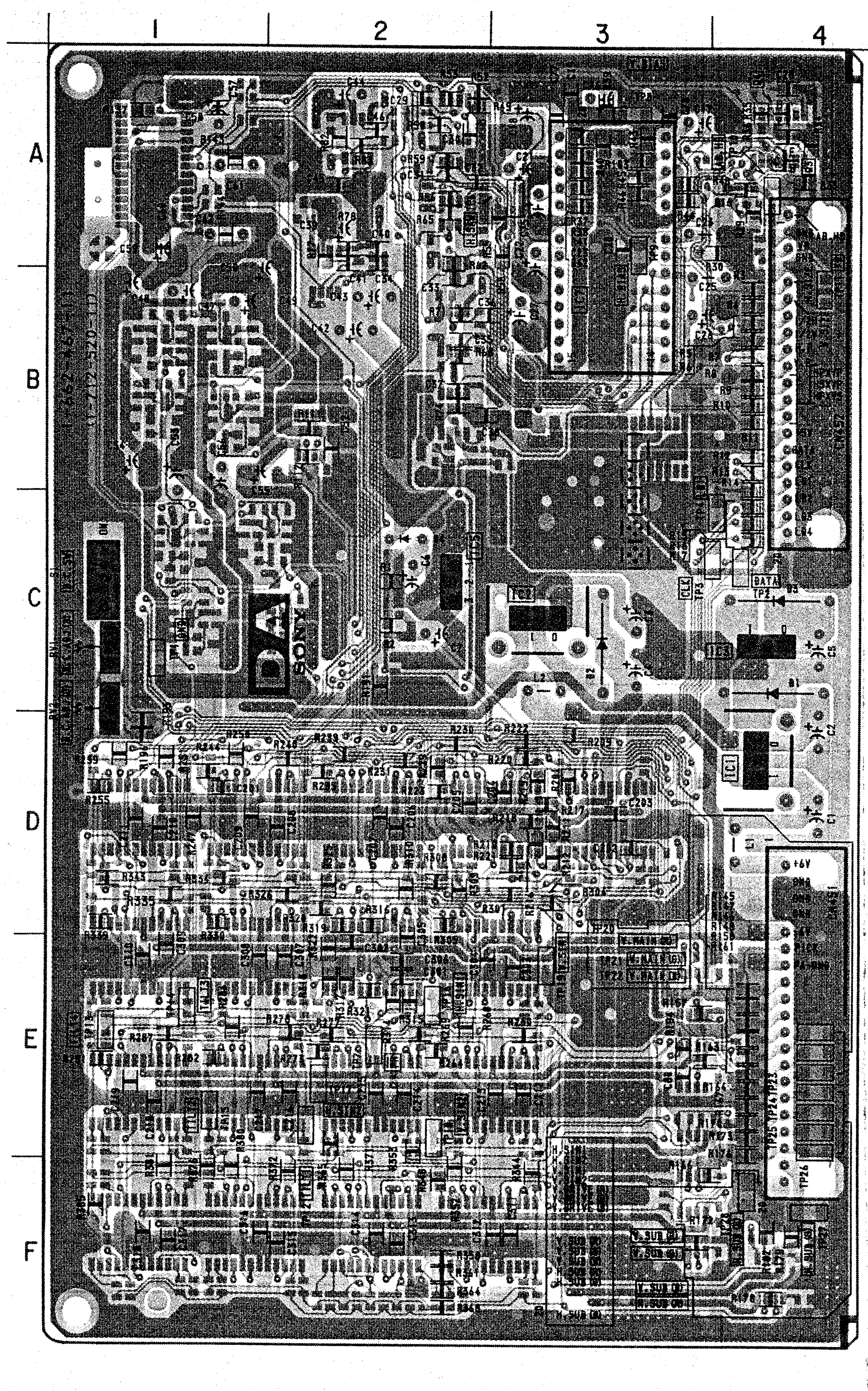
DA (WAVEFORM AM

— DA BOARD — <Con



DA (WAVEFORM AMP, WAVEFORM GEN, H/V BIAS, H/V ZONE CONTROL) BOARD

— DA BOARD — <Conductor side>



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C
D
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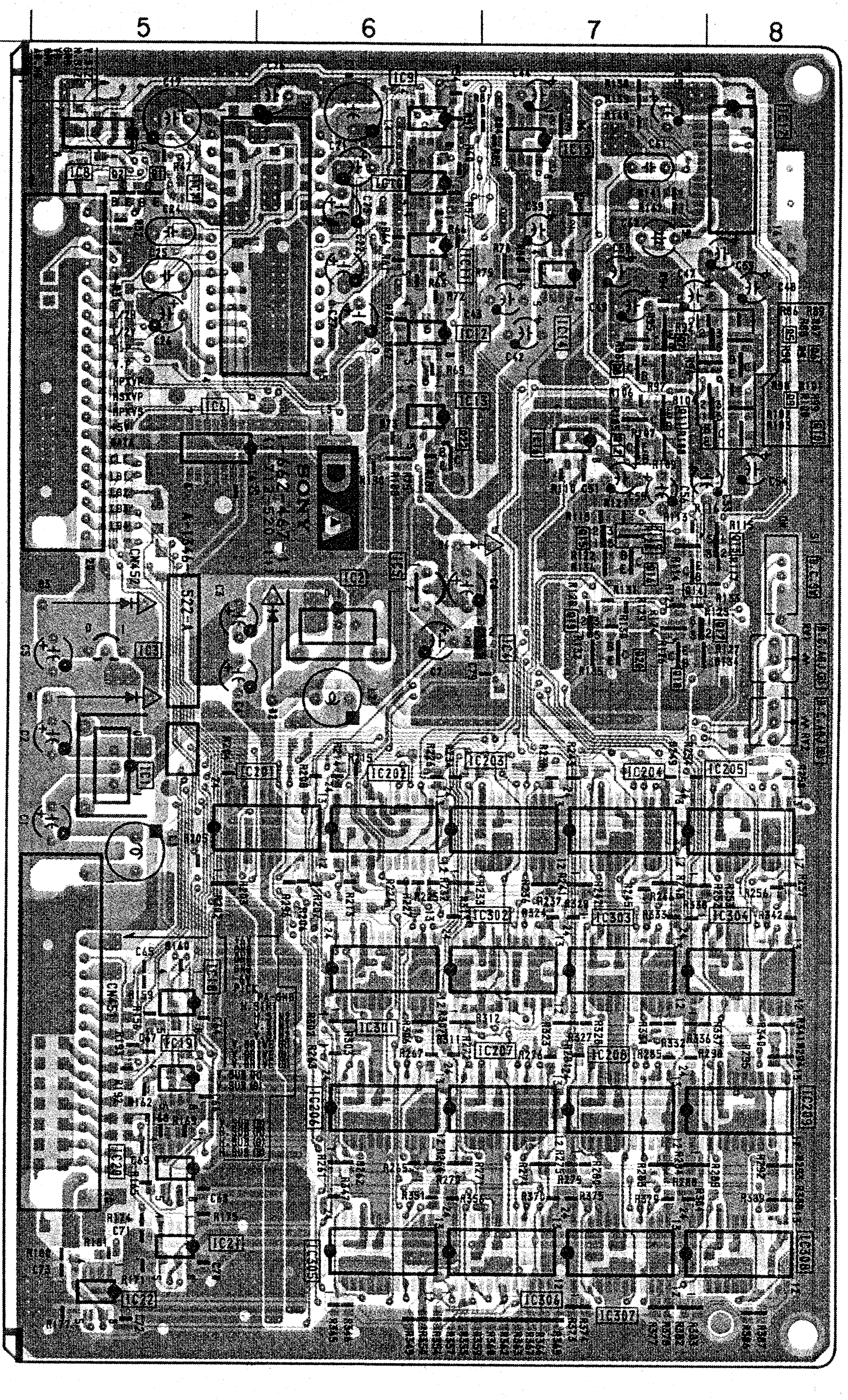
F
DA
SONY

— DA BOARD — <Component side>



5
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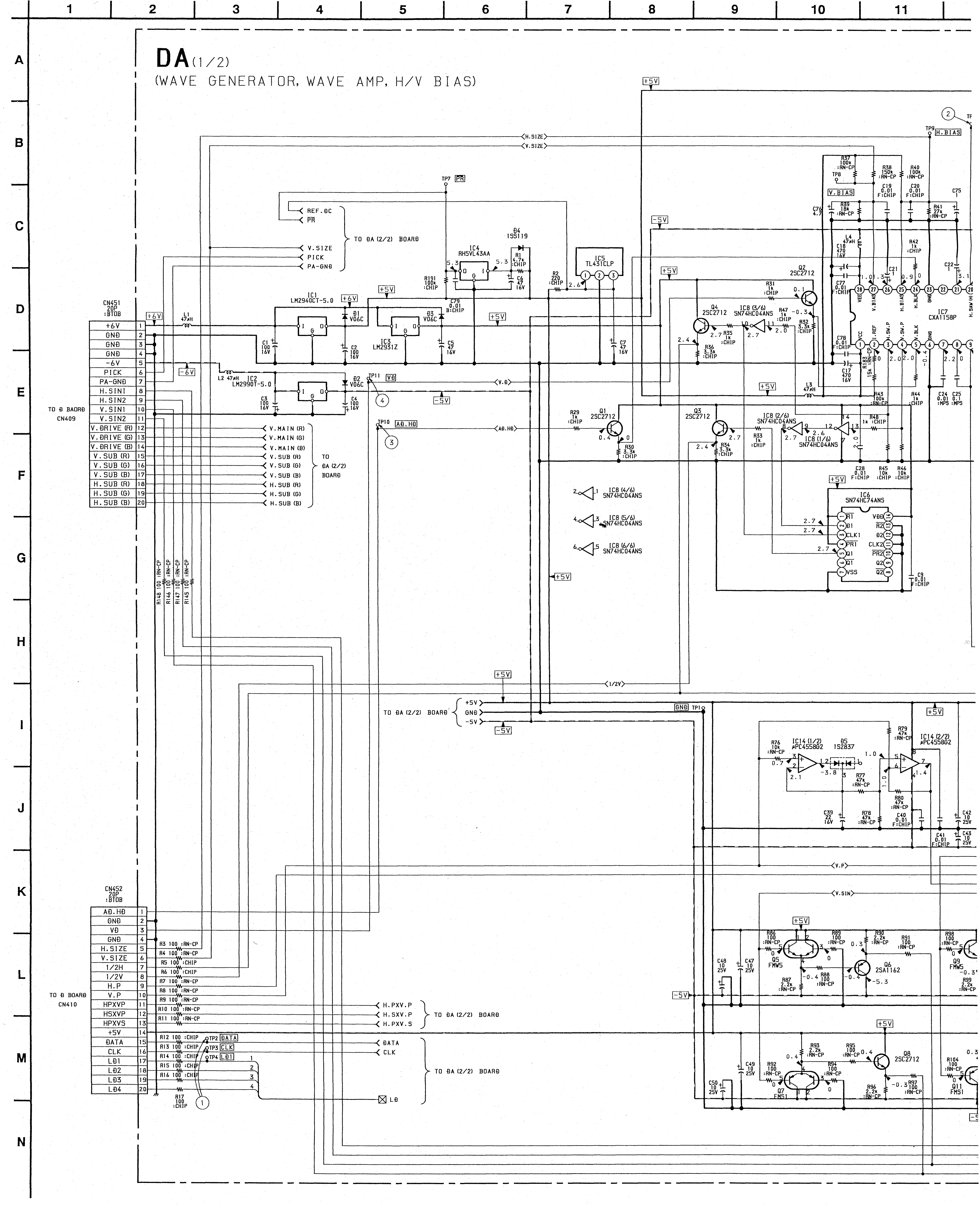
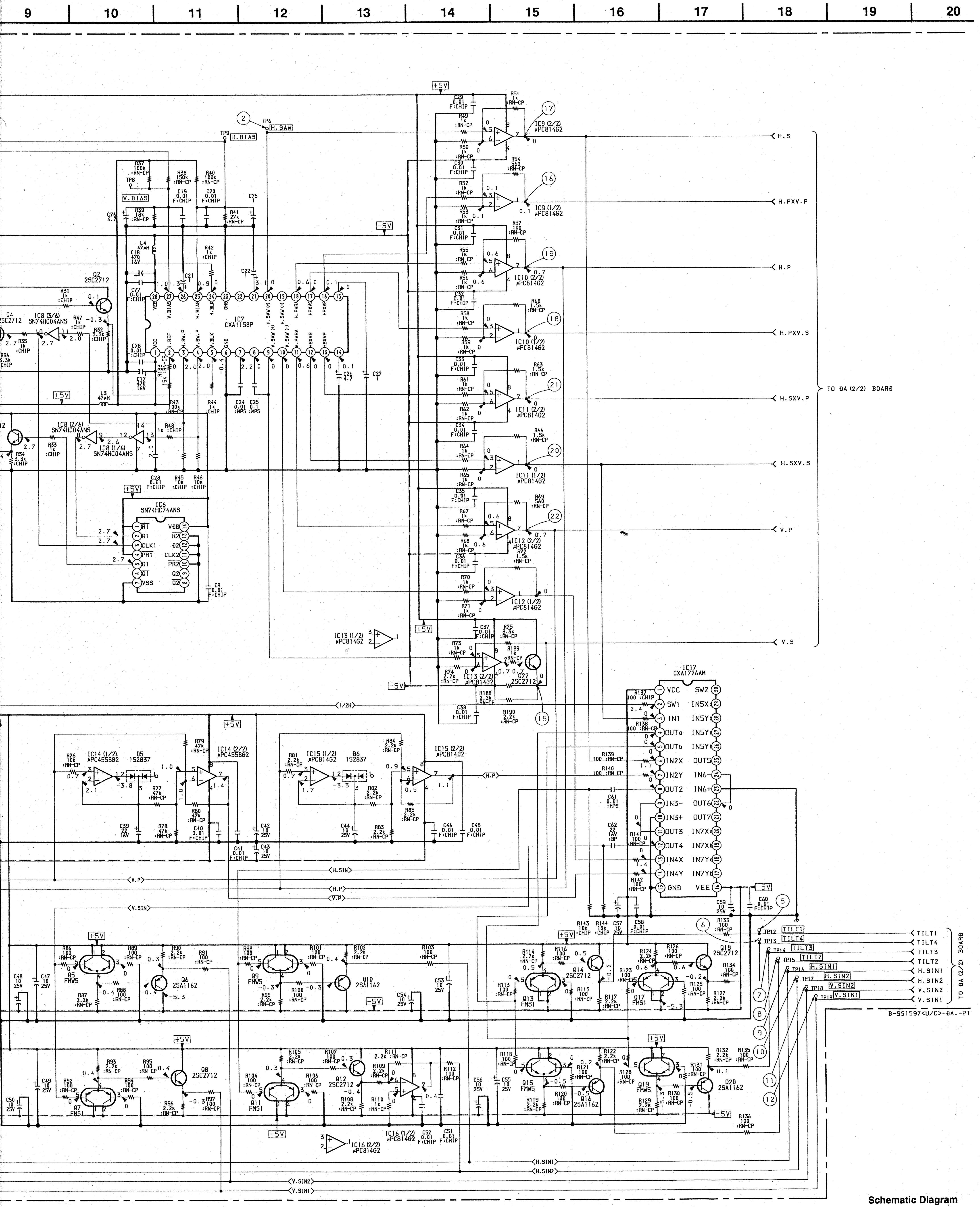
8
DA
SONY

- ▨ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side.

- **DA (1/2) (WAVEFORM AMP, WAVEFORM GEN, H/V BIAS) DIAGRAM**
- Refer to page 4-129 for Waveforms
- Refer to page 4-130 for Function of Semiconductor
- Refer to page 4-131 for IC Block Diagrams



DA(1/2)
(WAVE GENERATOR, WAVE AMP, H/V BIAS)
CN451 20P :BTOB
+6V
GND
-6V
PICK
PA-GND
H.SIN1
H.SIN2
V.SIN1
V.SIN2
V.DRIVE (R)
V.DRIVE (G)
V.DRIVE (B)
V.SUB (R)
V.SUB (G)
V.SUB (B)
H.SUB (R)
H.SUB (G)
H.SUB (B)
TO θ BAORD CN409
CN452 20P :BTOB
AD.HD
VD
H.SIZE
V.SIZE
1/2H
1/2V
H.P
V.P
HPXVP
HSXVP
HPXVS
+5V
DATA
CLK
LD1
LD2
LD3
LD4
TO θ BOARD CN410
REF.DC
PR
V.SIZE
PICK
PA-GND
TO DA (2/2) BOARD
V.MAIN (R)
V.MAIN (G)
V.MAIN (B)
H.PXV.P
H.SXV.P
H.PXV.S
LD
IC1 LM2940CT-5.0
IC2 LM2990T-5.0
IC3 LM2931Z
IC4 RH5VL43AA
IC5 TL431CLP
IC6 SN74HC74ANS
IC7 CXA1158P
IC8 SN74HC04ANS
IC14 μPC455862
Q1 2SC2712
Q2 2SC2712
Q3 2SC2712
Q4 2SC2712
Q5 FMW5
Q6 2SA1162
Q7 FMS1
Q8 2SC2712
Q9 FMW5
Q11 FMS1
D1 V06C
D2 V06C
D3 V06C
D4 1SS119
D5 1S2837
TP1 GND
TP2 DATA
TP3 CLK
TP4 LD1
TP7 PR
TP8
TP9 H.BIAS
TP10 AD.HD
TP11 VD
V.BIAS
H.SIZE
V.SIZE
1/2V
V.P
V.SIN
+5V
-5V
+6V
-6V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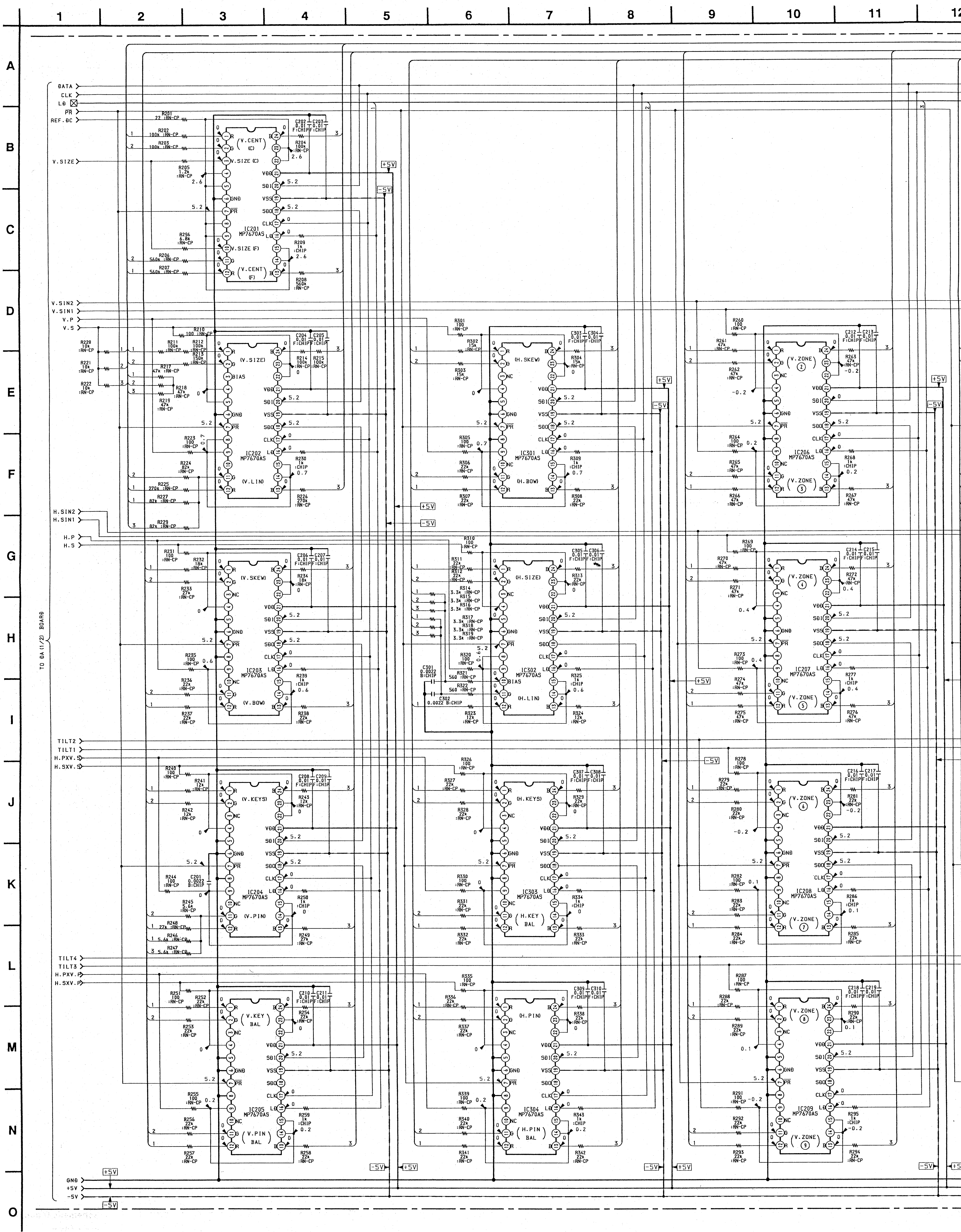
IC7 CXA1158P
VCC
I.REF
H.SW.P
V.SW.P
V.BLK
GND
V.SAW (+)
V.SAW (−)
V.PARA
HSXVS
HSXVP
VEE
V.BIAS
H.BIAS
H.BLK
H.SAW (+)
H.SAW (−)
H.PARA
HPXVS
HPXVP
TP9 H.BIAS
TP6 H.SAW
TP8 V.BIAS
IC6 SN74HC74ANS
IC8 (1/6) SN74HC04ANS
IC8 (2/6) SN74HC04ANS
IC8 (3/6) SN74HC04ANS
Q2 2SC2712
Q4 2SC2712
IC9 (1/2) μPC814G2
IC9 (2/2) μPC814G2
IC10 (1/2) μPC814G2
IC10 (2/2) μPC814G2
IC11 (1/2) μPC814G2
IC11 (2/2) μPC814G2
IC12 (1/2) μPC814G2
IC12 (2/2) μPC814G2
IC13 (1/2) μPC814G2
IC13 (2/2) μPC814G2
Q22 2SC2712
H.S
H.PXV.P
H.P
H.PXV.S
H.SXV.P
H.SXV.S
V.P
V.S
TO DA (2/2) BOARD
IC17 CXA1726AM
VCC
SW1
IN1
OUTa
OUTb
IN2X
IN2Y
OUT2
IN3−
IN3+
OUT3
OUT4
IN4X
IN4Y
GND
SW2
IN5X
IN5Y
IN5Y
IN5Y
OUT5
IN6−
IN6+
OUT6
OUT7
IN7X
IN7X
IN7Y
IN7Y
VEE
IC14 (1/2) μPC4558G2
IC14 (2/2) μPC4558G2
D5 1S2837
IC15 (1/2) μPC814G2
IC15 (2/2) μPC814G2
D6 1S2837
IC16 (1/2) μPC814G2
IC16 (2/2) μPC814G2
Q5 FMW5
Q6 2SA1162
Q7 FMS1
Q8 2SC2712
Q9 FMW5
Q10 2SA1162
Q11 FMS1
Q12 2SC2712
Q13 FMS1
Q14 2SC2712
Q15 FMW5
Q16 2SA1162
Q17 FMS1
Q18 2SC2712
Q19 FMW5
Q20 2SA1162
(1/2H)
(H.P)
(H.SIN)
(V.P)
(V.SIN)
(H.SIN1)
(H.SIN2)
(V.SIN2)
(V.SIN1)
+5V
−5V
TP12 TILT1
TP13 TILT4
TP14 TILT3
TP15 TILT2
TP16 H.SIN1
TP17 H.SIN2
TP18 V.SIN2
TP19 V.SIN1
TILT1
TILT4
TILT3
TILT2
H.SIN1
H.SIN2
V.SIN2
V.SIN1
TO DA (2/2) BOARD
B-SS1597<U/C>-DA.-P1

Schematic Diagram

DA (2/2) board ➡

• DA (2/2) (H/V ZONE CONTROL) DIAGRAM

- Refer to page 4-121 for Printed Wiring Board
- Refer to page 4-129 for Waveforms
- Refer to page 4-130 for Function of Semiconductor
- Refer to page 4-131 for IC Block Diagrams



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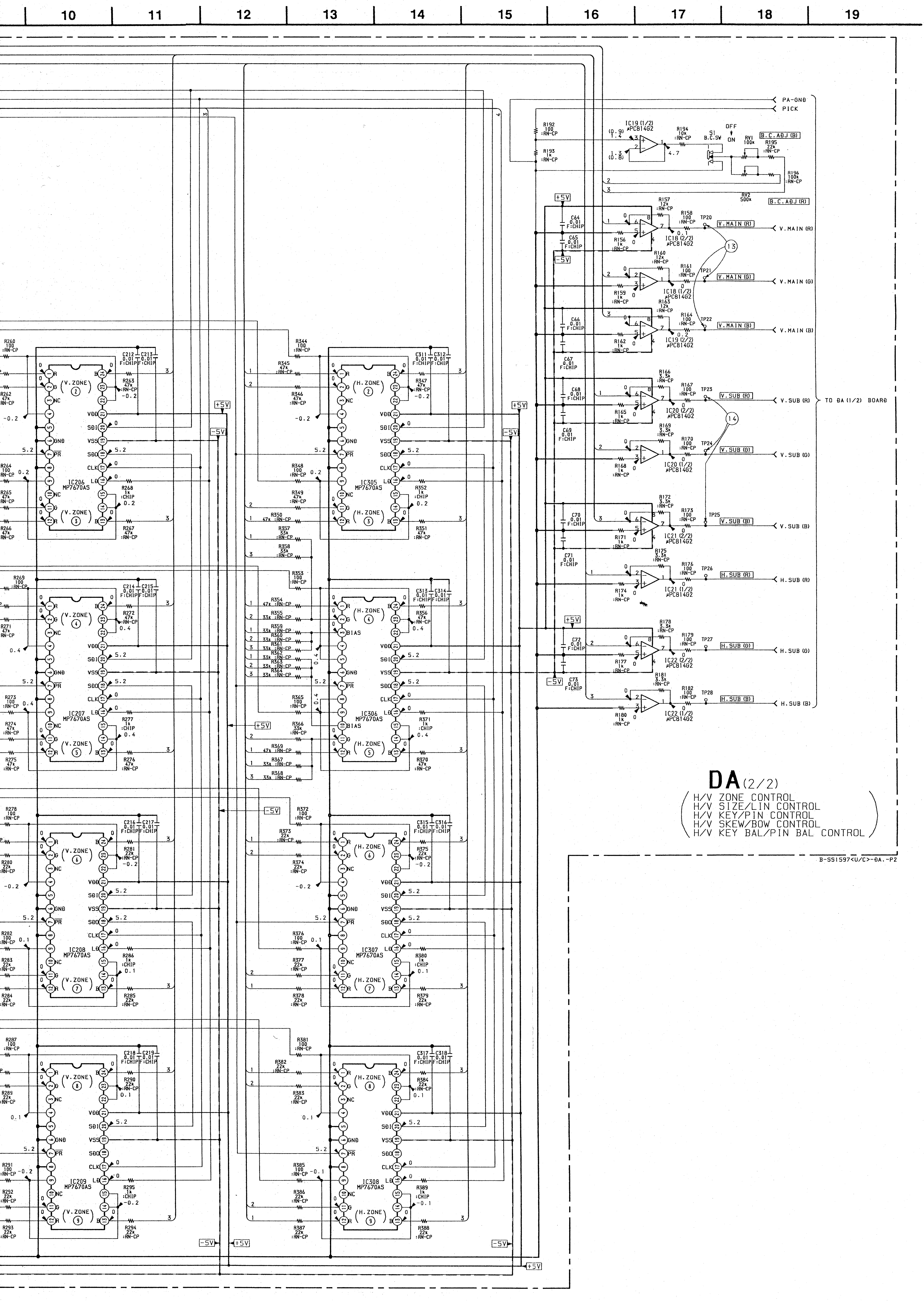
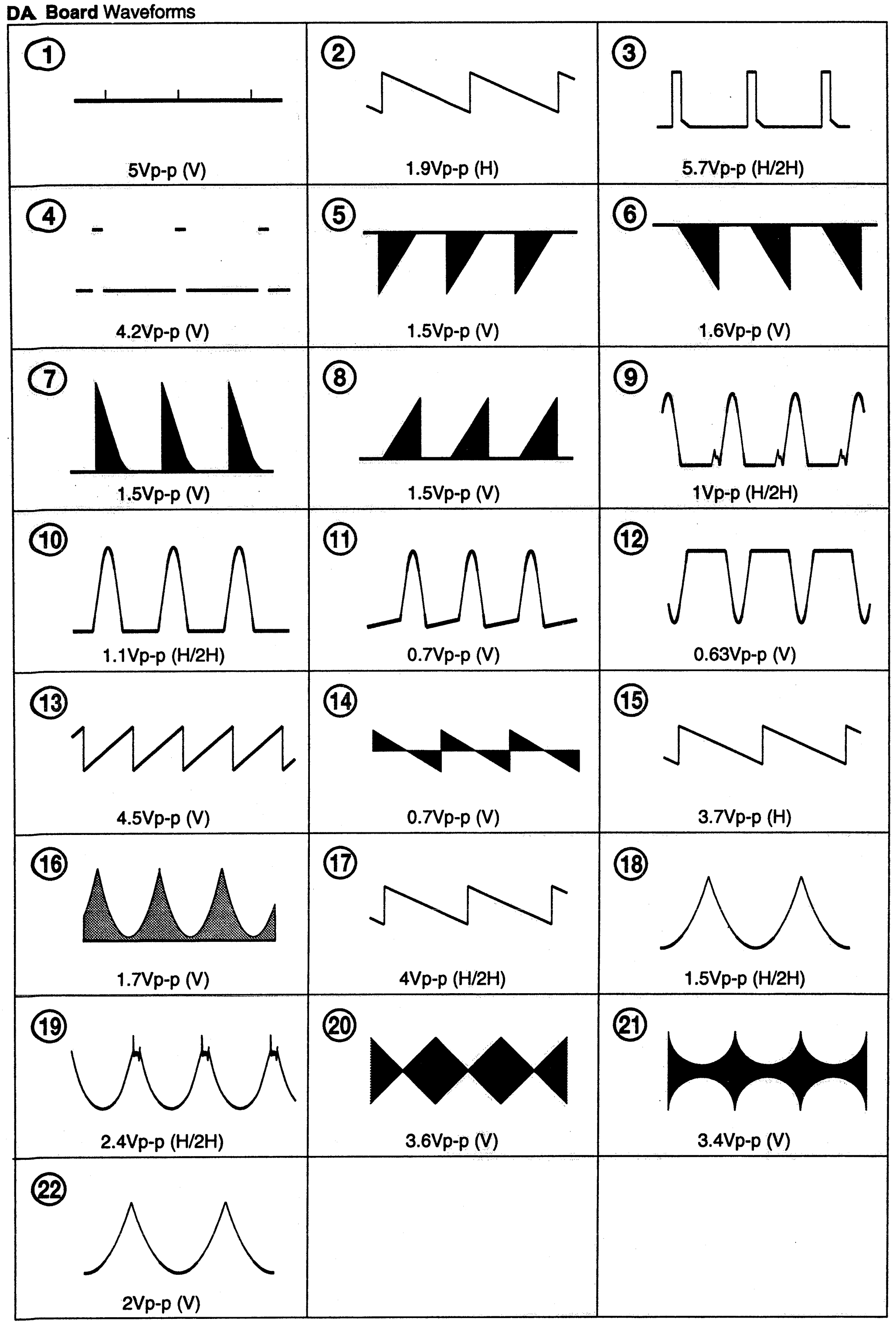
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
TO DA (1/2) BOARD
DATA
CLK
LD
PR
REF.DC
V.SIZE
V.SIN2
V.SIN1
V.P
V.S
H.SIN2
H.SIN1
H.P
H.S
TILT2
TILT1
H.PXV.S
H.SXV.S
TILT4
TILT3
H.PXV.P
H.SXV.P
GND
+5V
-5V
IC201 MP7670AS
(V.CENT) (C)
V.SIZE (C)
V.SIZE (F)
(V.CENT) (F)
IC202 MP7670AS
(V.SIZE)
BIAS
(V.LIN)
IC203 MP7670AS
(V.SKEW)
(V.BOW)
IC204 MP7670AS
(V.KEYS)
(V.PIN)
IC205 MP7670AS
(V.KEY BAL)
(V.PIN BAL)
IC301 MP7670AS
(H.SKEW)
(H.BOW)
IC302 MP7670AS
(H.SIZE)
(H.LIN)
IC303 MP7670AS
(H.KEYS)
(H.KEY BAL)
IC304 MP7670AS
(H.PIN)
(H.PIN BAL)
IC206 MP7670AS
(V.ZONE) ②
(V.ZONE) ③
IC207 MP7670AS
(V.ZONE) ④
(V.ZONE) ⑤
IC208 MP7670AS
(V.ZONE) ⑥
(V.ZONE) ⑦
IC209 MP7670AS
(V.ZONE) ⑧
(V.ZONE) ⑨
+5V
-5V


10
11
12
13
14
15
16
17
18
19
IC206 MP7670AS
IC207 MP7670AS
IC208 MP7670AS
IC209 MP7670AS
IC305 MP7670AS
IC306 MP7670AS
IC307 MP7670AS
IC308 MP7670AS
V.ZONE
H.ZONE
+5V
-5V
PA-GND
PICK
IC19 (1/2) μPC814G2
S1 B.C.SW
OFF
ON
RV1 100k
RV2 500k
B.C.ADJ (B)
B.C.ADJ (R)
IC18 (2/2) μPC814G2
IC18 (1/2) μPC814G2
IC19 (2/2) μPC814G2
IC20 (2/2) μPC814G2
IC20 (1/2) μPC814G2
IC21 (2/2) μPC814G2
IC21 (1/2) μPC814G2
IC22 (2/2) μPC814G2
IC22 (1/2) μPC814G2
TP20
TP21
TP22
TP23
TP24
TP25
TP26
TP27
TP28
V.MAIN (R)
V.MAIN (G)
V.MAIN (B)
V.SUB (R)
V.SUB (G)
V.SUB (B)
H.SUB (R)
H.SUB (G)
H.SUB (B)
13
14
TO DA (1/2) BOARD
B-SS1597<U/C>-DA.-P2

DA(2/2)

(H/V ZONE CONTROL
H/V SIZE/LIN CONTROL
H/V KEY/PIN CONTROL
H/V SKEW/BOW CONTROL
H/V KEY BAL/PIN BAL CONTROL)

DA Board Waveforms



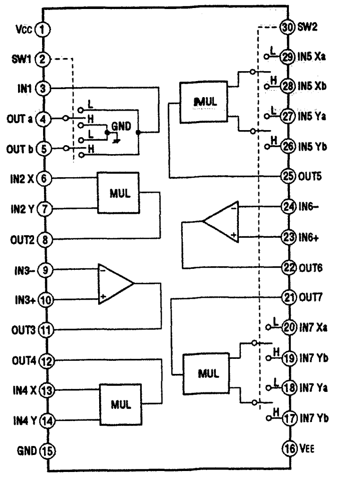
DA BOARD

Function of Semiconductor

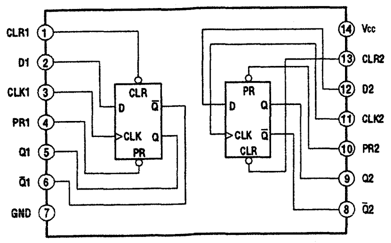
D1	V06C	+5V REG PROT
D2	V06C	–5V REG PROT
D3	V06C	+5V REG PROT-2
D4	1SS119-25	DISCHARGE
D5	1S2837	PEAK HOLD-1
D6	1S2837	PEAK HOLD-2
IC1	LM2940CT-5.0	+5V REG
IC2	LM2990T-5.0	–5V REG
IC3	LM2931Z-5.0	+5V REG-2
IC4	RH5VL43AA-T1	DAC RESET
IC5	TL431CLP	REF DC
IC6	SN74HC74ANS	D-F.F.
IC7	CXA1158P	WAVE GENERATOR
IC8	SN74HC04ANS	INVERTER
IC9	UPC814G2-T1	WAVE AMP-1
IC10	UPC814G2-T1	WAVE AMP-2
IC11	UPC814G2-T1	WAVE AMP-3
IC12	UPC814G2-T1	WAVE AMP-4
IC13	UPC814G2-T1	WAVE AMP-5
IC14	UPC4558G2	V.PARA BIAS
IC15	UPC814G2-T1	H.PARA BIAS
IC16	UPC814G2-T1	H.SIN2 INV
IC17	CXA1726AM	MULTIPLEX
IC18	UPC814G2-T1	V-MATRIX-1
IC19	UPC814G2-T1	V-MATRIX-2
IC20	UPC814G2-T1	SUB-MATRIX-1
IC21	UPC814G2-T1	SUB-MATRIX-2
IC22	UPC814G2-T1	SUB-MATRIX-3
IC201	MP7670AS-TE2	V.CENT CNTROL
IC202	MP7670AS-TE2	V.SIZE/LIN CNTROL
IC203	MP7670AS-TE2	V.SKEW/BOW CNTROL
IC204	MP7670AS-TE2	V.KEY/PIN CNTROL
IC205	MP7670AS-TE2	V.KEY BAL/PIN BAL CNTROL
IC206	MP7670AS-TE2	V.ZONE 2/3 CNTROL
IC207	MP7670AS-TE2	V.ZONE 4/5 CNTROL
IC208	MP7670AS-TE2	V.ZONE 6/7 CNTROL
IC209	MP7670AS-TE2	V.ZONE 8/9 CNTROL
IC301	MP7670AS-TE2	H.SKEW/BOW CNTROL
IC302	MP7670AS-TE2	H.SIZE/LIN CNTROL
IC303	MP7670AS-TE2	H.KEY/KEY BAL CNTROL
IC304	MP7670AS-TE2	H.PIN/PIN BAL CNTROL
IC305	MP7670AS-TE2	H.ZONE 2/3 CNTROL
IC306	MP7670AS-TE2	H.ZONE 4/5 CNTROL
IC307	MP7670AS-TE2	H.ZONE 6/7 CNTROL
IC308	MP7670AS-TE2	H.ZONE 8/9 CNTROL
Q1	2SC2712-YG	AD HD BUFFER
Q2	2SC2712-YG	VD BUFFER
Q3	2SC2712-YG	1/2V BUFFER
Q4	2SC2712-YG	1/2H BUFFER
Q5	FMW5	V.SIN2-SW
Q6	2SA1162-YG	V.SIN2-BUFFER
Q7	FMS1	V.SIN1-SW
Q8	2SC2712-YG	V.SIN1-BUFFER
Q9	FMW5	H.SIN1-SW
Q10	2SA1162-YG	H.SIN1-BUFFER
Q11	FMS1	H.SIN2-SW
Q12	2SC2712-YG	H.SIN2-BUFFER
Q13	FMS1	TILT1-SW
Q14	2SC2712-YG	TILT1-BUFFER
Q15	FMW5	TILT2-SW
Q16	2SA1162-YG	TILT2-BUFFER
Q17	FMS1	TILT4-SW
Q18	2SC2712-YG	TILT4-BUFFER
Q19	FMW5	TILT3-SW
Q20	2SA1162-YG	TILT3-BUFFER
Q22	2SC2712-YG	V.SAW BUFFER

DA Board IC Block Diagrams

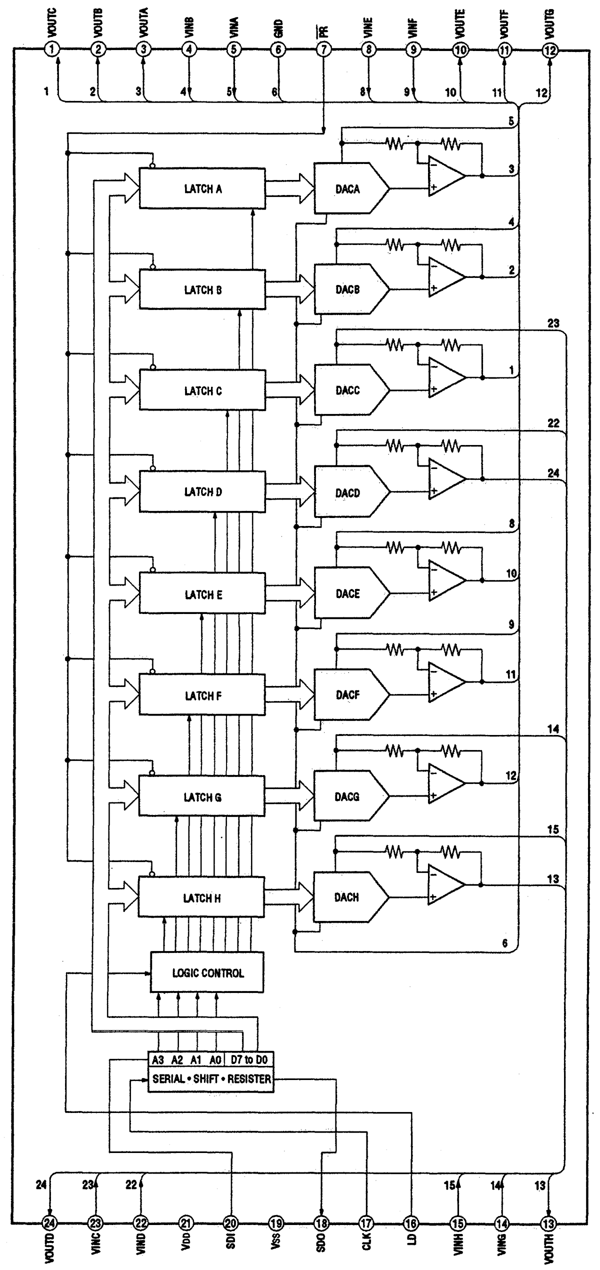
CXA1726AM (IC17)


Vcc 1
SW1 2
IN1 3
OUT a 4
OUT b 5
IN2 X 6
IN2 Y 7
OUT2 8
IN3– 9
IN3+ 10
OUT3 11
OUT4 12
IN4 X 13
IN4 Y 14
GND 15
16 VEE
17 IN7 Yb
18 IN7 Ya
19 IN7 Yb
20 IN7 Xa
21 OUT7
22 OUT6
23 IN6+
24 IN6–
25 OUT5
26 IN5 Yb
27 IN5 Ya
28 IN5 Xb
29 IN5 Xa
30 SW2
MUL
GND
L
H

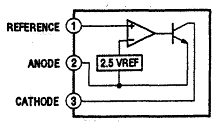
SN74HC74ANS (IC6)


CLR1 1
D1 2
CLK1 3
PR1 4
Q1 5
Q̄1 6
GND 7
14 Vcc
13 CLR2
12 D2
11 CLK2
10 PR2
9 Q2
8 Q̄2
CLR
D
CLK
PR
Q
Q̄

MP7670AS (IC201-209, 301-308)

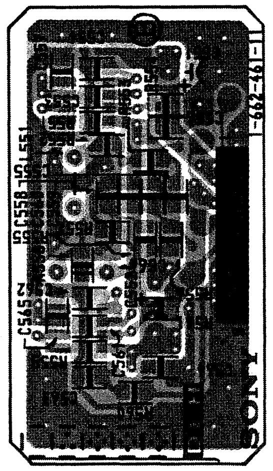

VOUTC 1
VOUTB 2
VOUTA 3
VINB 4
VINA 5
GND 6
PR 7
VINE 8
VINF 9
VOUTE 10
VOUTF 11
VOUTG 12
VOUTH 13
VING 14
VINH 15
LD 16
CLK 17
SDO 18
VSS 19
SDI 20
VDD 21
VIND 22
VINC 23
VOUTD 24
LATCH A
LATCH B
LATCH C
LATCH D
LATCH E
LATCH F
LATCH G
LATCH H
DACA
DACB
DACC
DACD
DACE
DACF
DACG
DACH
LOGIC CONTROL
A3 A2 A1 A0 D7 to D0
SERIAL • SHIFT • RESISTER

TL431CLP (IC5)

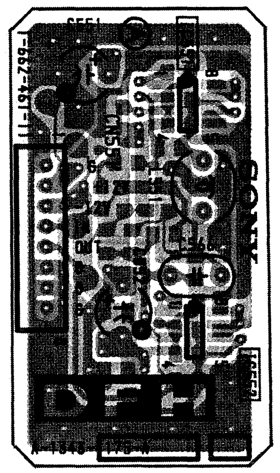

REFERENCE 1
ANODE 2
CATHODE 3
2.5 VREF

DFH (H SUB (R.G.B)) BOARD

— DFH BOARD —
<Conductor side>

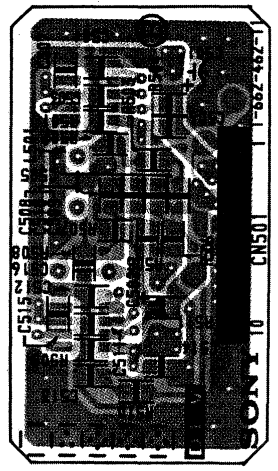


— DFH BOARD —
<Component side>

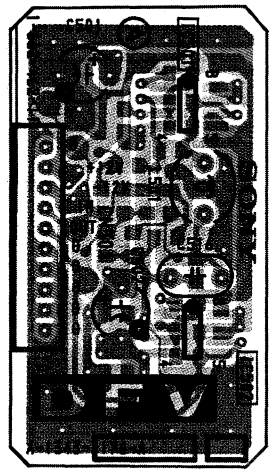


DFV (V SUB (R.G.B)) BOARD

— DFV BOARD —
<Conductor side>

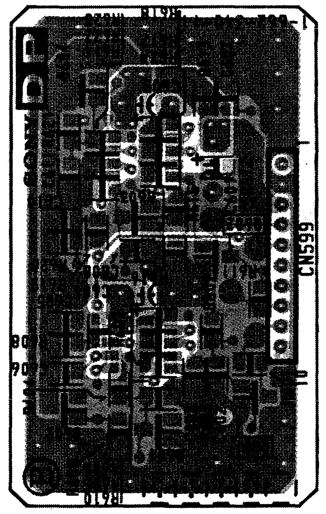


— DFV BOARD —
<Component side>

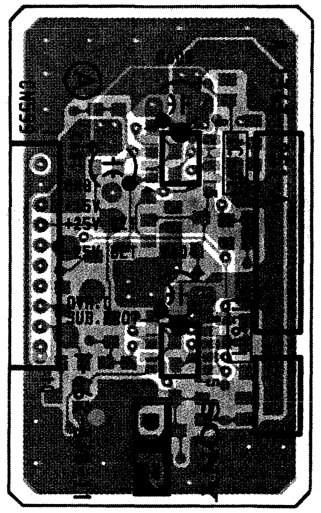


DP (COMPARATOR) BOARD

— DP BOARD —
<Conductor side>

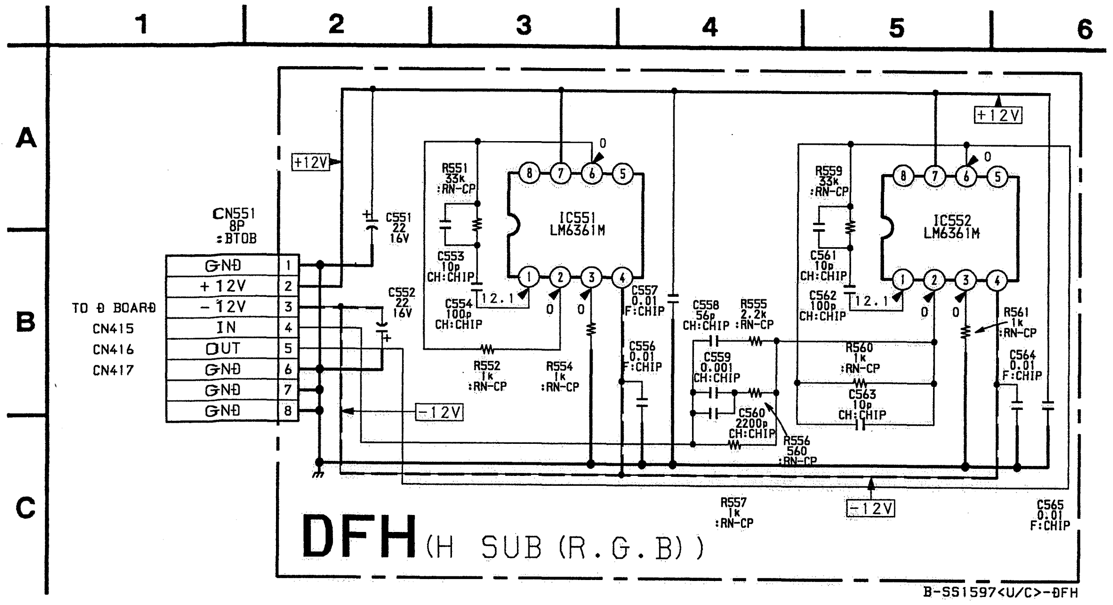


— DP BOARD —
<Component side>



- ▒ : Pattern from the side which enables seeing.
- ▓ : Pattern of the rear side.

• DFH (H SUB (R.G.B)) DIAGRAM

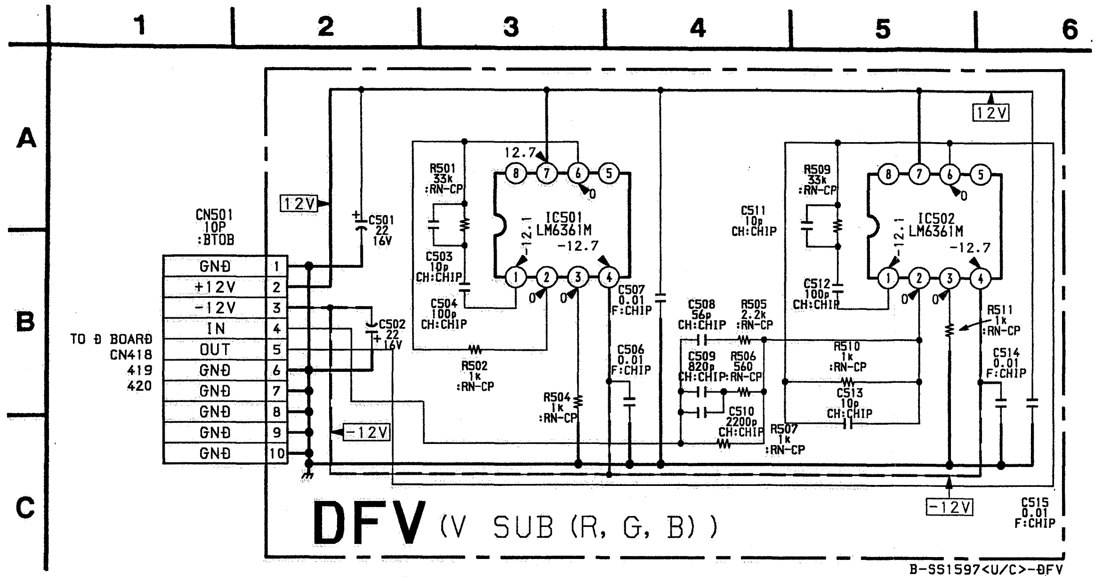

1
2
3
4
5
6
A
B
C
CN551
8P
:BTOB
GND 1
+12V 2
-12V 3
IN 4
OUT 5
GND 6
GND 7
GND 8
TO D BOARD
CN415
CN416
CN417
+12V
-12V
C551 22 16V
C552 22 16V
R551 33k :RN-CP
C553 10p CH:CHIP
C554 100p CH:CHIP
IC551 LM6361M
12.1
0
R552 1k :RN-CP
R554 1k :RN-CP
C557 0.01 F:CHIP
C556 0.01 F:CHIP
C558 56p CH:CHIP
R555 2.2k :RN-CP
C559 0.001 CH:CHIP
C560 2200p CH:CHIP
R556 560 :RN-CP
R557 1k :RN-CP
R559 33k :RN-CP
C561 10p CH:CHIP
C562 100p CH:CHIP
IC552 LM6361M
R560 1k :RN-CP
C563 10p CH:CHIP
R561 1k :RN-CP
C564 0.01 F:CHIP
C565 0.01 F:CHIP
DFH (H SUB (R.G.B))
B-SS1597<U/C>-DFH

DFH BOARD

Function of Semiconductor

IC551	LM6361M	H SUB AMP
IC552	LM6361M	H SUB AMP

• DFV (V SUB (R.G.B)) DIAGRAM


1
2
3
4
5
6
A
B
C
CN501
10P
:BTOB
GND 1
+12V 2
-12V 3
IN 4
OUT 5
GND 6
GND 7
GND 8
GND 9
GND 10
TO D BOARD
CN418
419
420
12V
-12V
C501 22 16V
C502 22 16V
R501 33k :RN-CP
C503 10p CH:CHIP
C504 100p CH:CHIP
IC501 LM6361M
12.7
-12.1
-12.7
0
R502 1k :RN-CP
R504 1k :RN-CP
C507 0.01 F:CHIP
C506 0.01 F:CHIP
C508 56p CH:CHIP
R505 2.2k :RN-CP
C509 820p CH:CHIP
R506 560 :RN-CP
C510 2200p CH:CHIP
R507 1k :RN-CP
C511 10p CH:CHIP
R509 33k :RN-CP
C512 100p CH:CHIP
IC502 LM6361M
R510 1k :RN-CP
C513 10p CH:CHIP
R511 1k :RN-CP
C514 0.01 F:CHIP
C515 0.01 F:CHIP
DFV (V SUB (R, G, B))
B-SS1597<U/C>-DFV

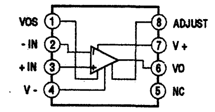
DFV BOARD

Function of Semiconductor

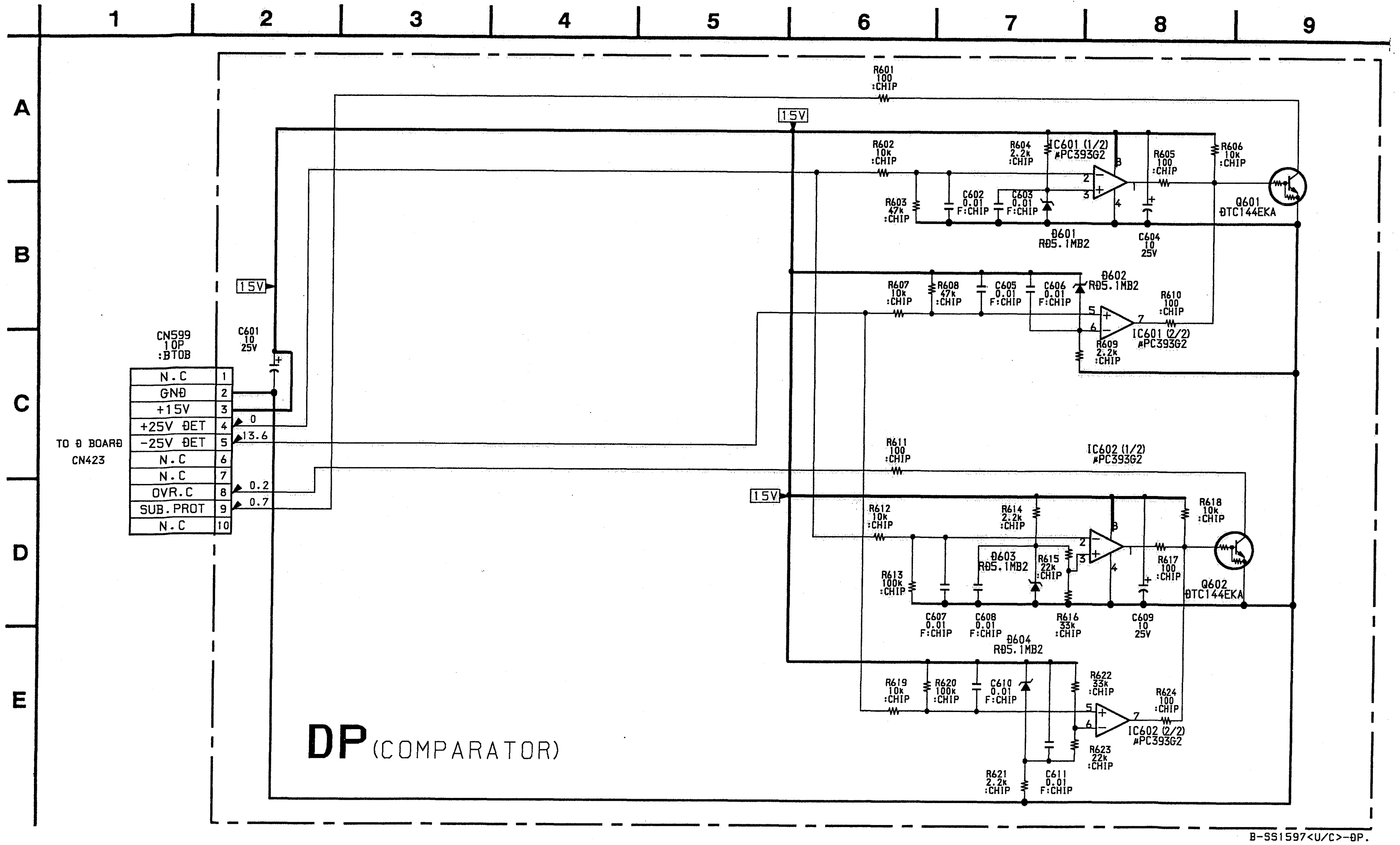
IC501	LM6361M	V SUB AMP
IC502	LM6361M	V SUB AMP

DFH, DFV Board IC Block Diagram

LM6361M (IC501, 502, 551, 552)


VOS 1
-IN 2
+IN 3
V- 4
8 ADJUST
7 V+
6 VO
5 NC

• DP (COMPARATOR) DIAGRAM


1
2
3
4
5
6
7
8
9
A
B
C
D
E
CN599
10P
:BTOB
N.C 1
GND 2
+15V 3
+25V DET 4
-25V DET 5
N.C 6
N.C 7
OVR.C 8
SUB.PROT 9
N.C 10
TO D BOARD
CN423
0
13.6
0.2
0.7
C601 10 25V
15V
R601 100 :CHIP
R602 10k :CHIP
R603 47k :CHIP
C602 0.01 F:CHIP
C603 0.01 F:CHIP
R604 2.2k :CHIP
IC601 (1/2) μPC393G2
D601 RD5.1MB2
R605 100 :CHIP
C604 10 25V
R606 10k :CHIP
Q601 DTC144EKA
R607 10k :CHIP
R608 47k :CHIP
C605 0.01 F:CHIP
C606 0.01 F:CHIP
D602 RD5.1MB2
R609 2.2k :CHIP
R610 100 :CHIP
IC601 (2/2) μPC393G2
R611 100 :CHIP
IC602 (1/2) μPC393G2
R612 10k :CHIP
R613 100k :CHIP
R614 2.2k :CHIP
D603 RD5.1MB2
R615 22k :CHIP
R616 33k :CHIP
R617 100 :CHIP
R618 10k :CHIP
Q602 DTC144EKA
C607 0.01 F:CHIP
C608 0.01 F:CHIP
C609 10 25V
D604 RD5.1MB2
R619 10k :CHIP
R620 100k :CHIP
C610 0.01 F:CHIP
R621 2.2k :CHIP
C611 0.01 F:CHIP
R622 33k :CHIP
R623 22k :CHIP
R624 100 :CHIP
IC602 (2/2) μPC393G2
DP (COMPARATOR)
B-SS1597<U/C>-DP.

DP BOARD

Function of Semiconductor

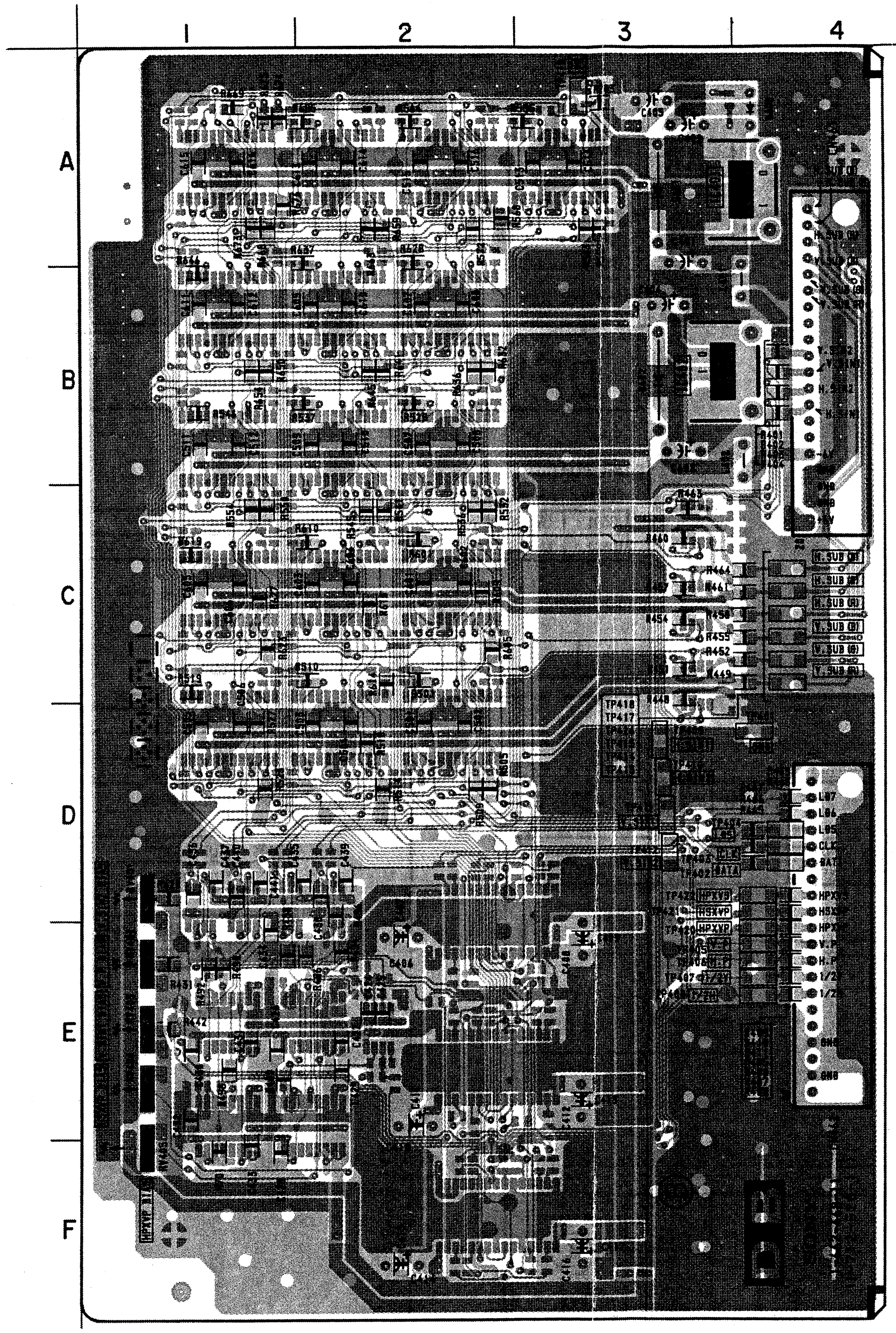
D601	RD5.1M-B2	SUB PROT BIAS
D602	RD5.1M-B2	SUB PROT BIAS
D603	RD5.1M-B2	OVR C BIAS
D604	RD5.1M-B2	OVR C BIAS
IC601	UPC393G2	SUB PROT BIAS
IC602	UPC393G2	OVR C BIAS
Q601	DTC144EKA-T146	SUB PROT BIAS
Q602	DTC144EKA-T146	OVR C BIAS

DB (MULTIPLEX, SUB MATRIX, H/V ZONE CONTROL) BOARD

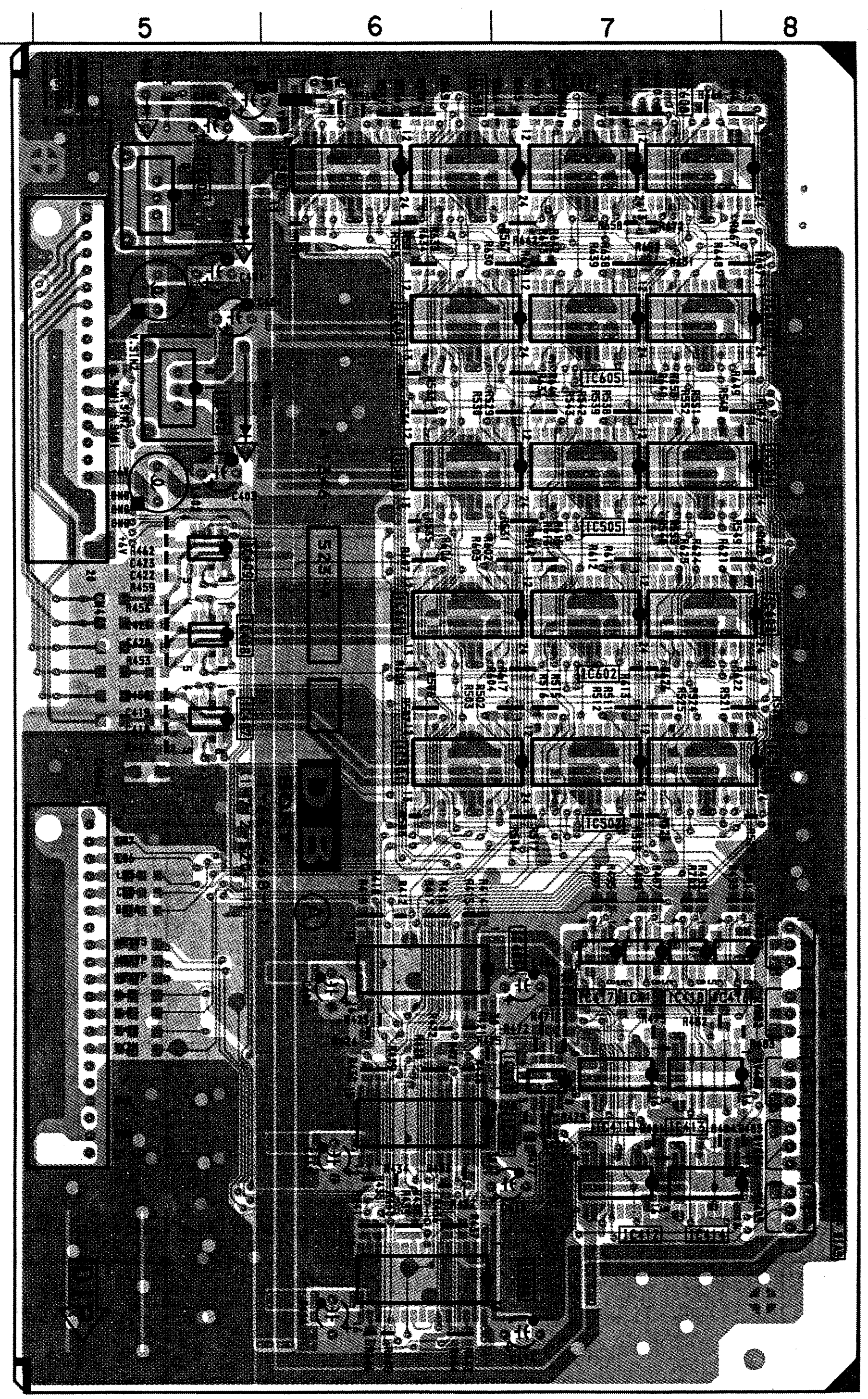
DB BOARD
Semiconductor Location

DIODE	
D401	A-3
D402	B-3
D403	A-4
IC	
IC401	A-3
IC402	B-3
IC403	A-6
IC404	D-6
IC405	E-6
IC406	F-6
IC407	C-5
IC408	C-5
IC409	C-5
IC501	D-6
IC502	D-7
IC503	D-7
IC504	B-6
IC505	B-7
IC506	B-7
IC601	C-6
IC602	C-7
IC603	C-7
IC604	B-6
IC605	B-7
IC606	B-7
VARIABLE RESISTOR	
RV401	D-1
RV402	E-1
RV403	E-1
TEST POINT	
TP401	D-4
TP402	D-4
TP403	D-4
TP404	D-4
TP405	E-4
TP406	E-4
TP407	E-4
TP408	E-4
TP409	D-3
TP410	D-3
TP411	D-3
TP412	D-3
TP413	C-4
TP414	C-4
TP415	C-4
TP416	C-4
TP417	C-4
TP418	C-4
TP419	A-3
TP420	E-4
TP421	D-4
TP422	D-4

— DB BOARD — <Conductor side>



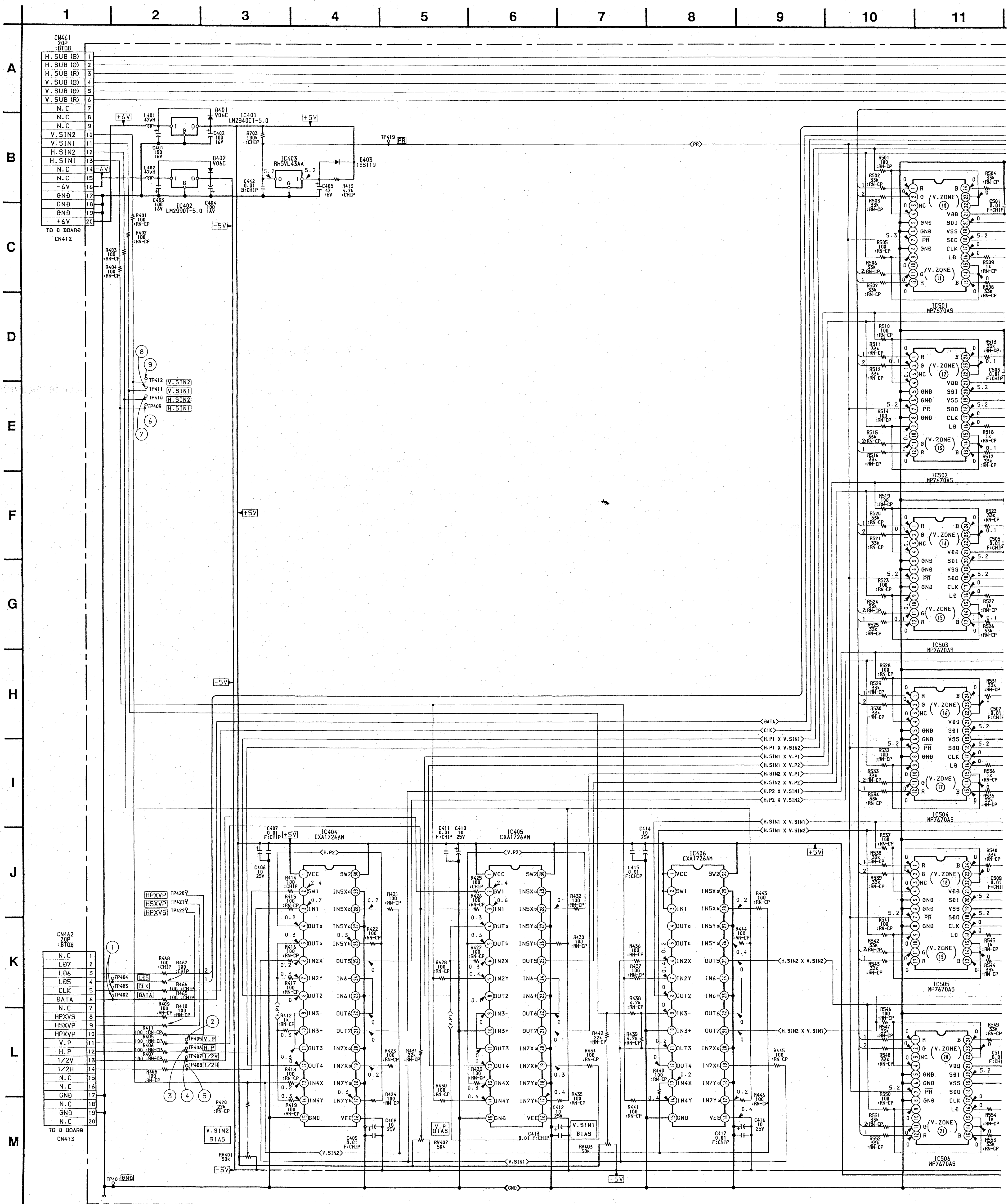
— DB BOARD — <Component side>

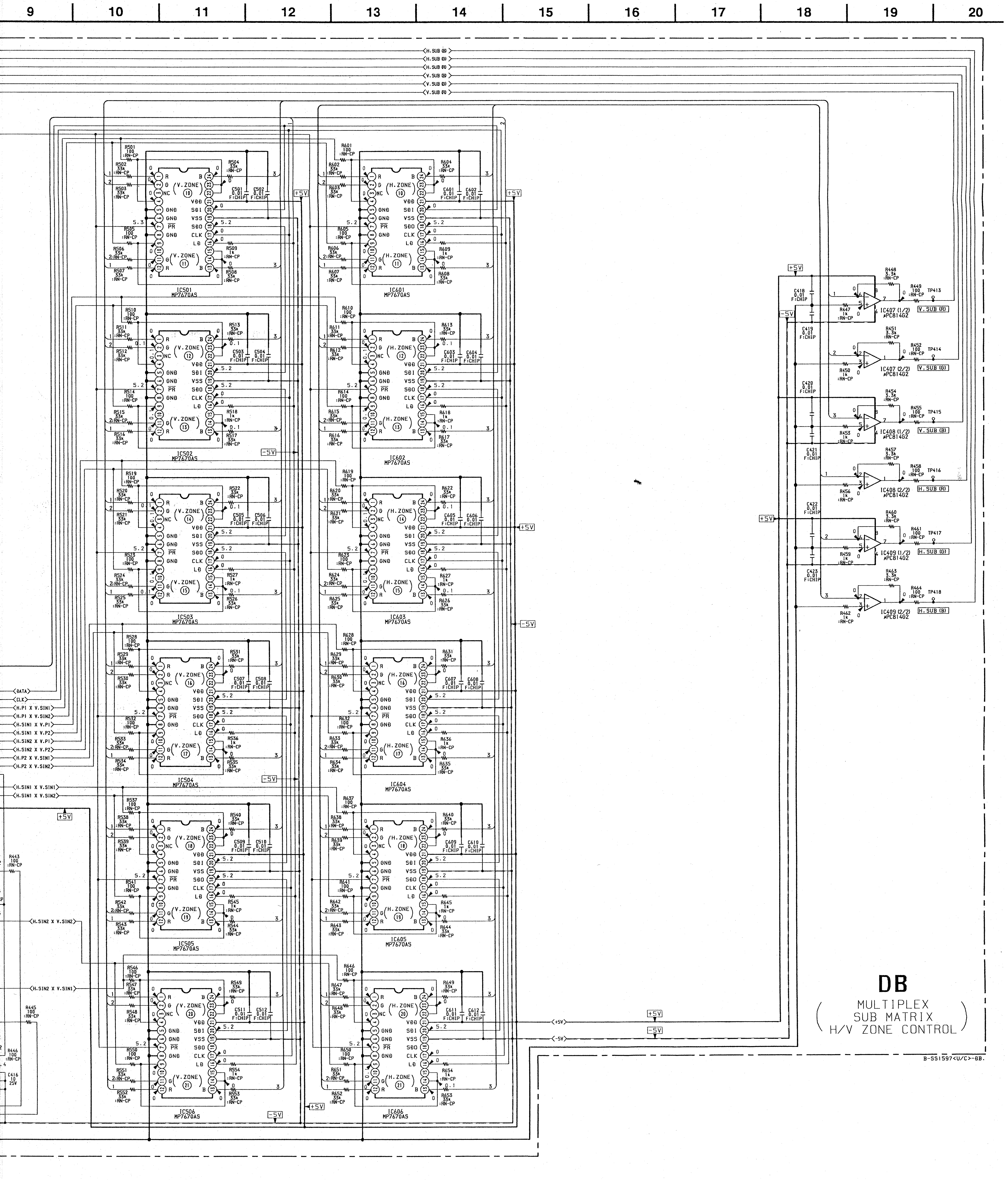


- ▨ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side.

Schematic Diagram
← DFH DFV DP board

- **DB (MULTIPLEX, SUB MATRIX, H/V ZONE CONTROL) DIAGRAM**
- Refer to page 4-141 for Waveforms
- Refer to page 4-141 for Function of Semiconductor
- Refer to page 4-142 for IC Block Diagrams


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
CN461 20P :BTOB
H.SUB (B)
H.SUB (G)
H.SUB (R)
V.SUB (B)
V.SUB (G)
V.SUB (R)
N.C
V.SIN2
V.SIN1
H.SIN2
H.SIN1
-6V
GND
+6V
TO B BOARD CN412
IC401 LM2940CT-5.0
IC402 LM2990T-5.0
IC403 RH5VL43AA
D401 V06C
D402 V06C
D403 1SS119
L401 47μH
L402 47μH
+6V
+5V
-5V
TP419 PR
TP412 V.SIN2
TP411 V.SIN1
TP410 H.SIN2
TP409 H.SIN1
IC404 CXA1726AM
IC405 CXA1726AM
IC406 CXA1726AM
VCC
SW1
IN1
OUTa
OUTb
IN2X
IN2Y
OUT2
IN3-
IN3+
OUT3
OUT4
IN4X
IN4Y
GND
SW2
IN5Xa
IN5Xb
IN5Ya
IN5Yb
OUT5
IN6-
IN6+
OUT6
OUT7
IN7Xa
IN7Xb
IN7Ya
IN7Yb
VEE
H.P1
H.P2
V.P1
V.P2
V.SIN1 BIAS
V.SIN2 BIAS
V.P BIAS
RV401 50k
RV402 50k
RV403 50k
CN462 20P :BTOB
LD7
LD6
LD5
CLK
DATA
HPXVS
HSXVP
HPXVP
V.P
H.P
1/2V
1/2H
TO B BOARD CN413
TP401 GND
TP402 DATA
TP403 CLK
TP404 LD5
TP405 V.P
TP406 H.P
TP407 1/2V
TP408 1/2H
TP420 HPXVP
TP421 HSXVP
TP422 HPXVS
DATA
CLK
H.P1 X V.SIN1
H.P1 X V.SIN2
H.SIN1 X V.P1
H.SIN1 X V.P2
H.SIN2 X V.P1
H.SIN2 X V.P2
H.P2 X V.SIN1
H.P2 X V.SIN2
H.SIN1 X V.SIN1
H.SIN1 X V.SIN2
H.SIN2 X V.SIN2
H.SIN2 X V.SIN1
IC501 MP7670AS
IC502 MP7670AS
IC503 MP7670AS
IC504 MP7670AS
IC505 MP7670AS
IC506 MP7670AS
V.ZONE
VDD
SDI
VSS
SDO
LD
PR
NC
①
②
③
④
⑤
⑥
⑦
⑧
⑨

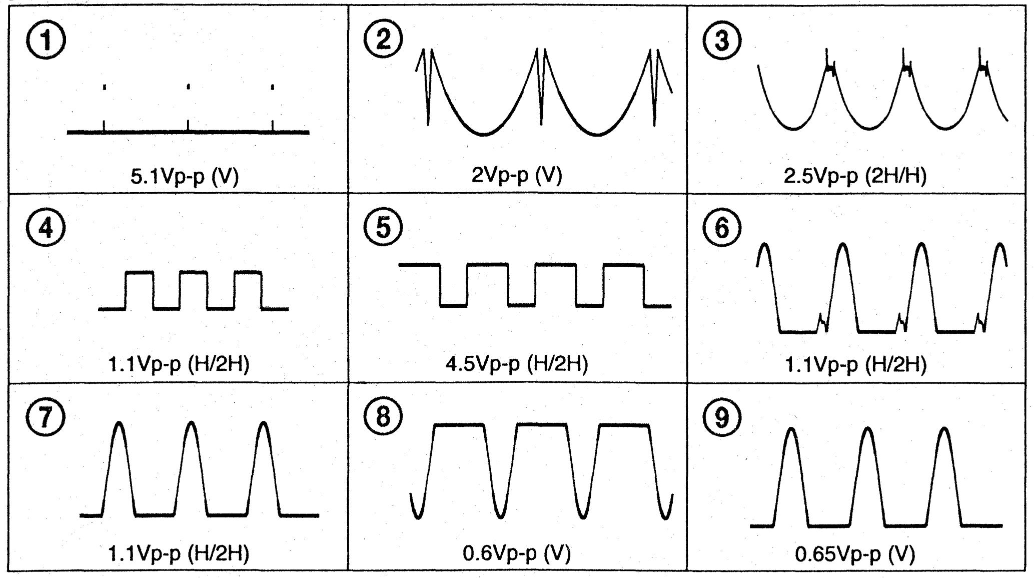


9
10
11
12
13
14
15
16
17
18
19
20
H.SUB (B)
H.SUB (G)
H.SUB (R)
V.SUB (B)
V.SUB (G)
V.SUB (R)
DATA
CLK
H.P1 X V.SIN1
H.P1 X V.SIN2
H.SIN1 X V.P1
H.SIN1 X V.P2
H.SIN2 X V.P1
H.SIN2 X V.P2
H.P2 X V.SIN1
H.P2 X V.SIN2
H.SIN1 X V.SIN1
H.SIN1 X V.SIN2
H.SIN2 X V.SIN2
H.SIN2 X V.SIN1
IC501 MP7670AS
IC502 MP7670AS
IC503 MP7670AS
IC504 MP7670AS
IC505 MP7670AS
IC506 MP7670AS
IC601 MP7670AS
IC602 MP7670AS
IC603 MP7670AS
IC604 MP7670AS
IC605 MP7670AS
IC606 MP7670AS
V.ZONE
H.ZONE
R
G
B
NC
GND
PR
VDD
SDI
VSS
SDO
CLK
LD
+5V
-5V
IC407 (1/2) μPC814G2
IC407 (2/2) μPC814G2
IC408 (1/2) μPC814G2
IC408 (2/2) μPC814G2
IC409 (1/2) μPC814G2
IC409 (2/2) μPC814G2
TP413
TP414
TP415
TP416
TP417
TP418
C418 0.01 F:CHIP
C419 0.01 F:CHIP
C420 0.01 F:CHIP
C421 0.01 F:CHIP
C422 0.01 F:CHIP
C423 0.01 F:CHIP
R443 100 :RN-CP
R445 100 :RN-CP
R446 100 :RN-CP
C416 10 25V
B-SS1597<U/C>-DB.

DB

MULTIPLEX
SUB MATRIX
H/V ZONE CONTROL

DB Board Waveforms



① 5.1Vp-p (V)

② 2Vp-p (V)

③ 2.5Vp-p (2H/H)

④ 1.1Vp-p (H/2H)

⑤ 4.5Vp-p (H/2H)

⑥ 1.1Vp-p (H/2H)

⑦ 1.1Vp-p (H/2H)

⑧ 0.6Vp-p (V)

⑨ 0.65Vp-p (V)

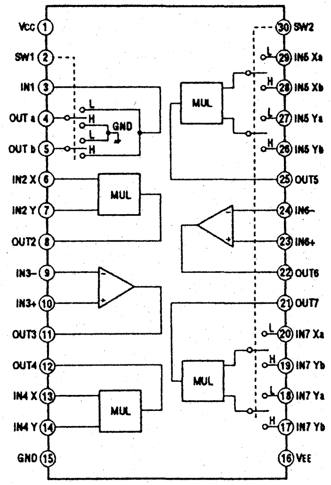
DB BOARD

Function of Semiconductor

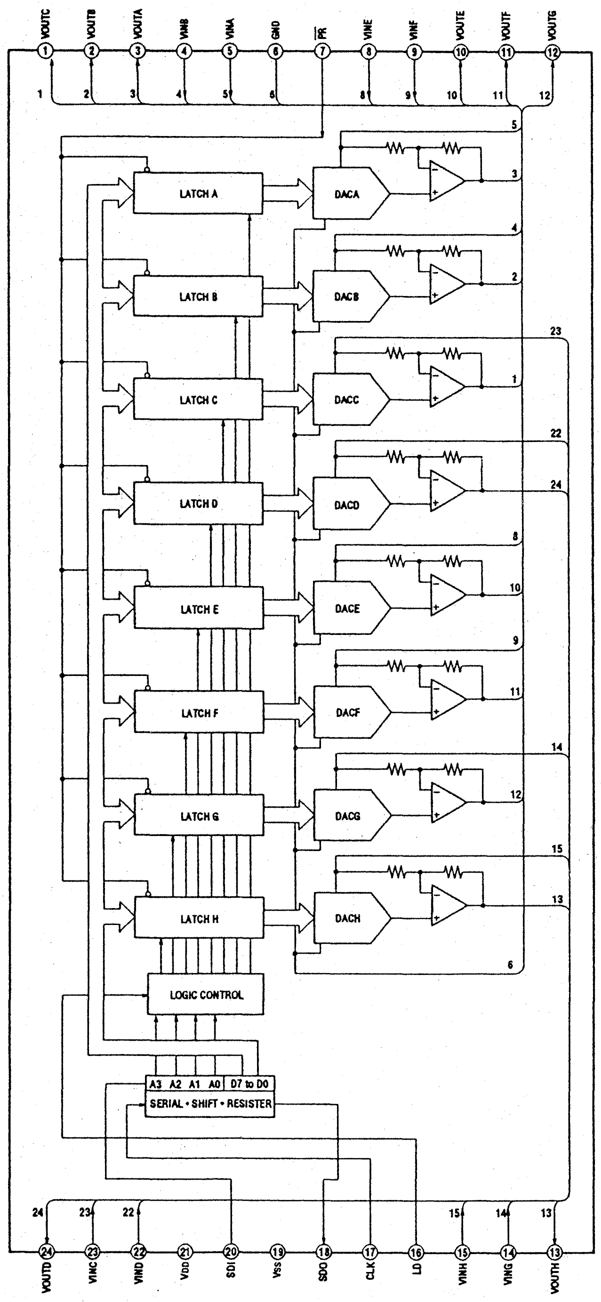
D401	V06C	+5V REG PROT
D402	V06C	–5V REG PROT
D403	1SS119-25	DISCHARGE
IC401	LM2940CT-5.0	+5V REG
IC402	LM2990T-5.0	–5V REG
IC403	RH5VL43AA-T1	DAC RESET
IC404	CXA1726AM	MULTIPLEX-1
IC405	CXA1726AM	MULTIPLEX-2
IC406	CXA1726AM	MULTIPLEX-3
IC407	UPC814G2-T1	SUB-MATRIX-1
IC408	UPC814G2-T1	SUB-MATRIX-2
IC409	UPC814G2-T1	SUB-MATRIX-3
IC501	MP7670AS-TE2	V.ZONE 10/11 CNTROL
IC502	MP7670AS-TE2	V.ZONE 12/13 CNTROL
IC503	MP7670AS-TE2	V.ZONE 14/15 CNTROL
IC504	MP7670AS-TE2	V.ZONE 16/17 CNTROL
IC505	MP7670AS-TE2	V.ZONE 18/19 CNTROL
IC506	MP7670AS-TE2	V.ZONE 20/21 CNTROL
IC601	MP7670AS-TE2	H.ZONE 10/11 CNTROL
IC602	MP7670AS-TE2	H.ZONE 12/13 CNTROL
IC603	MP7670AS-TE2	H.ZONE 14/15 CNTROL
IC604	MP7670AS-TE2	H.ZONE 16/17 CNTROL
IC605	MP7670AS-TE2	H.ZONE 18/19 CNTROL
IC606	MP7670AS-TE2	H.ZONE 20/21 CNTROL

DB Board IC Block Diagrams

CXA1726AM (IC404-406)

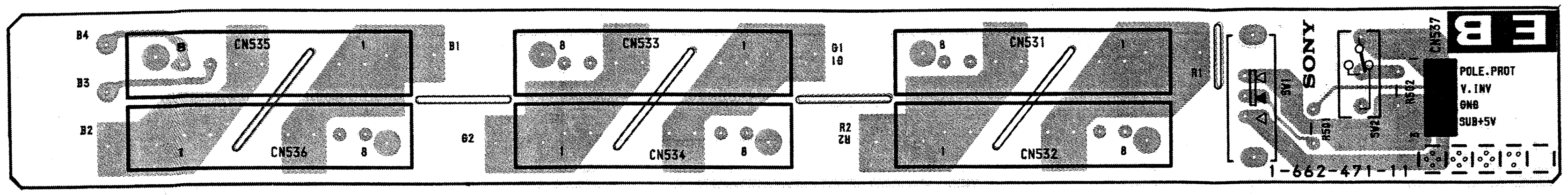

Vcc ①
SW1 ②
IN1 ③
OUT a ④
OUT b ⑤
IN2 X ⑥
IN2 Y ⑦
OUT2 ⑧
IN3– ⑨
IN3+ ⑩
OUT3 ⑪
OUT4 ⑫
IN4 X ⑬
IN4 Y ⑭
GND ⑮
㉚ SW2
㉙ IN5 Xa
㉘ IN5 Xb
㉗ IN5 Ya
㉖ IN5 Yb
㉕ OUT5
㉔ IN6–
㉓ IN6+
㉒ OUT6
㉑ OUT7
⑳ IN7 Xa
⑲ IN7 Yb
⑱ IN7 Ya
⑰ IN7 Yb
⑯ VEE
MUL
MUL
MUL
MUL
L
H
L
H
GND

MP7670AS (IC501-506, 601-606)

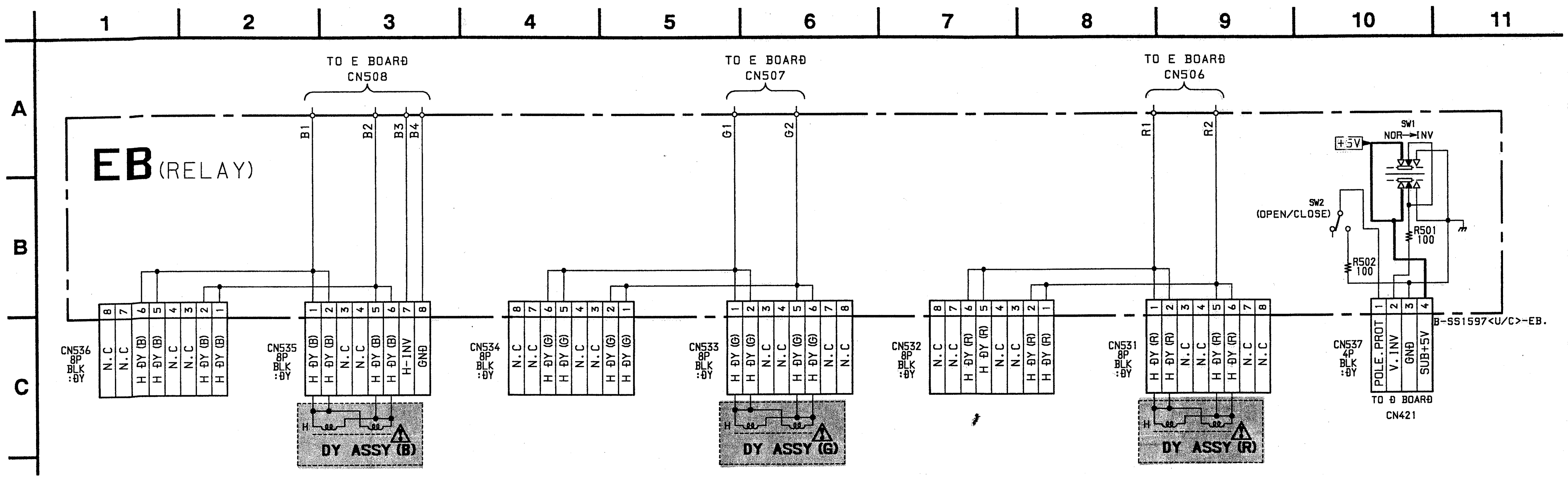

VOUTC
VOUTB
VOUTA
VINB
VINA
GND
PR
VINE
VINF
VOUTE
VOUTF
VOUTG
LATCH A
LATCH B
LATCH C
LATCH D
LATCH E
LATCH F
LATCH G
LATCH H
DACA
DACB
DACC
DACD
DACE
DACF
DACG
DACH
LOGIC CONTROL
A3 A2 A1 A0 D7 to D0
SERIAL • SHIFT • RESISTER
VOUTD
VINC
VIND
VDD
SDI
VSS
SDO
CLK
LD
VINH
VING
VOUTH

EB (RELAY) BOARD

— EB BOARD — <Conductor side>


CN535
CN536
CN533
CN534
CN531
CN532
B4
B3
B2
B1
G1
G2
R1
R2
SONY
SW1
SW2
R501
R502
CN537
EB
POLE.PROT
V.INV
GND
SUB+5V
1-662-471-11

• EB (RELAY) DIAGRAM


1
2
3
4
5
6
7
8
9
10
11
A
B
C
TO E BOARD CN508
TO E BOARD CN507
TO E BOARD CN506
B1
B2
B3
B4
G1
G2
R1
R2
EB (RELAY)
SW1 NOR→INV
+5V
SW2 (OPEN/CLOSE)
R501 100
R502 100
CN536 8P BLK :DY
CN535 8P BLK :DY
CN534 8P BLK :DY
CN533 8P BLK :DY
CN532 8P BLK :DY
CN531 8P BLK :DY
CN537 4P BLK :DY
N.C
H DY (B)
H-INV
GND
H DY (G)
H DY (R)
POLE.PROT
V.INV
SUB+5V
TO D BOARD CN421
B-SS1597<U/C>-EB.
DY ASSY (B)
DY ASSY (G)
DY ASSY (R)

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

E BOARD
Semiconductor Location

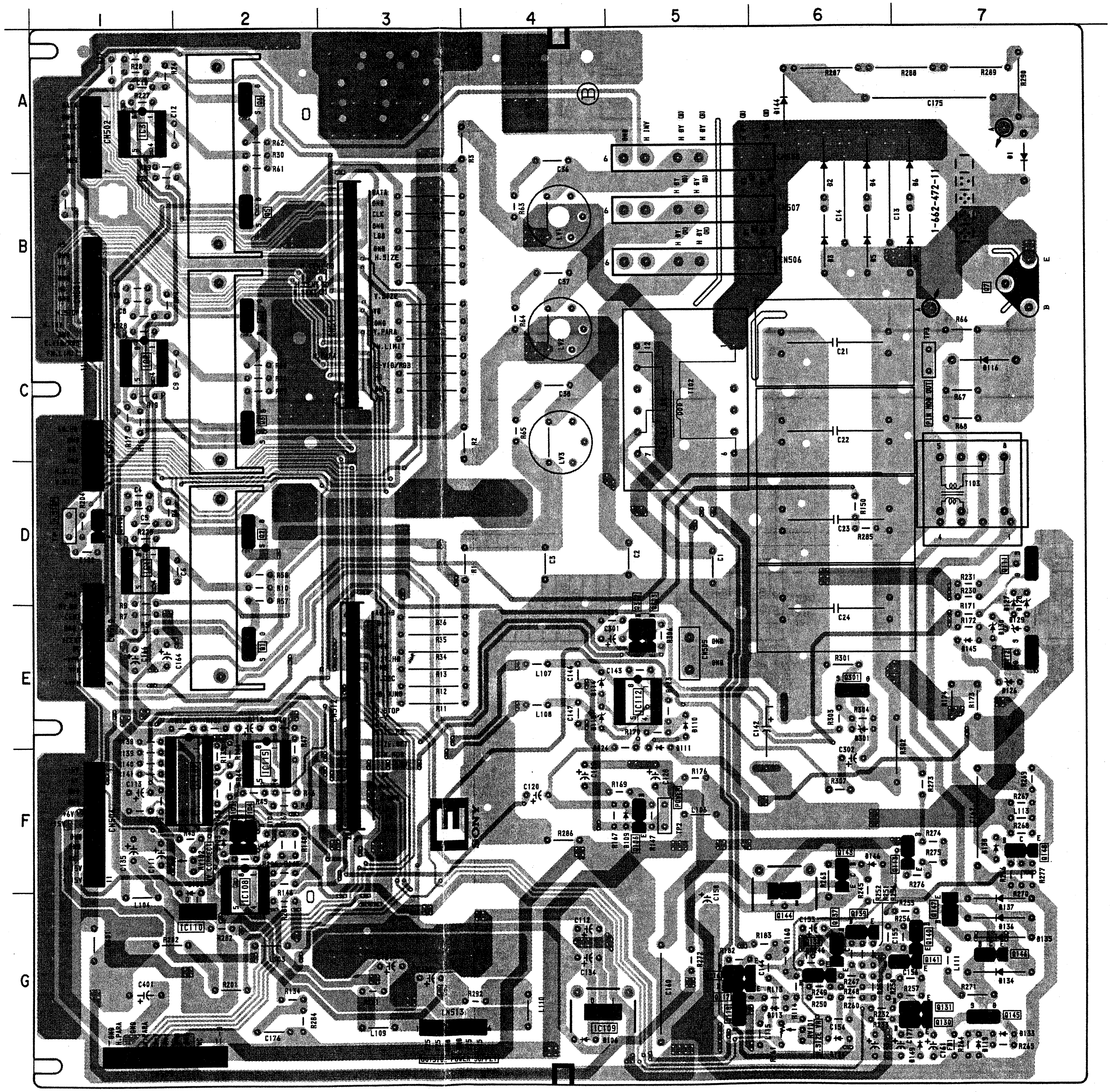
DIODE		TRANSISTOR	
D1	A-7	Q1	E-2
D2	B-6	Q2	D-2
D3	B-6	Q3	C-2
D4	B-6	Q4	C-2
D5	B-6	Q5	B-2
D6	B-7	Q6	B-2
D7	B-7	Q7	B-7
D103	F-2	Q103	F-2
D104	F-2	Q104	F-2
D105	G-2	Q106	F-5
D106	G-4	Q111	D-7
D109	F-5	Q112	E-7
D110	E-5	Q113	F-7
D111	F-5	Q115	D-1
D113	G-6	Q116	G-5
D114	E-4	Q117	G-5
D115	E-4	Q118	G-5
D116	C-7	Q130	G-7
D119	G-7	Q131	G-7
D124	G-6	Q137	G-6
D126	E-7	Q138	G-6
D127	E-7	Q139	G-6
D128	E-7	Q140	G-7
D129	E-7	Q141	G-7
D130	E-7	Q143	F-6
D133	G-7	Q144	G-6
D134	G-7	Q145	G-7
D135	G-7	Q146	G-7
D136	G-7	Q147	G-7
D137	G-7	Q148	F-7
D138	F-7	Q301	E-6
D144	A-6	Q302	E-5
D145	F-7	Q303	E-5
D146	F-6	VARIABLE RESISTOR	
D149	G-7		
D301	E-6		
IC		RV101	G-6
		RV102	F-2
IC1	D-1	TEST POINT	
IC2	C-1		
IC3	A-1		
IC107	F-2	TP1	D-1
IC108	F-2	TP2	F-5
IC109	G-4	TP3	C-7
IC110	G-2		
IC112	E-5		
IC115	F-2		
TORYMER			
LV1	B-4		
LV2	C-4		
LV3	C-4		

Schematic Diagram

← **EB** board

E (H OUT, H CENT OUT, H OSC) BOARD

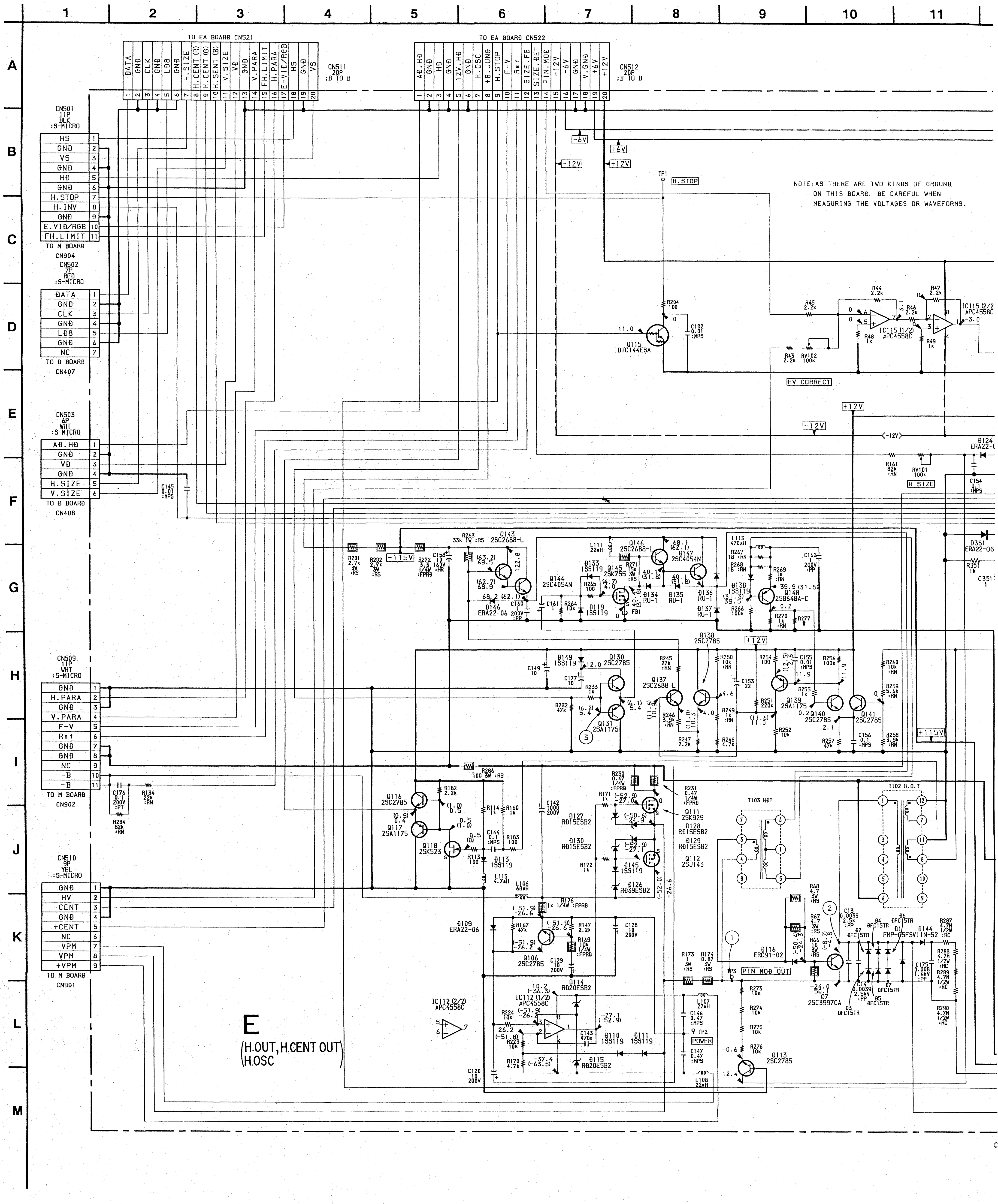
— E BOARD — <Conductor side>


1
2
3
4
5
6
7
A
B
C
D
E
F
G
CN502
CN506
CN507
R287
R288
R289
R290
C175
C14
C13
C21
C22
C23
C24
C56
C57
C58
LV1
LV2
LV3
R63
R64
R65
R66
R67
R68
T103
D116
R150
R285
R231
R171
R172
R301
Q301
C302
L107
L108
C143
IC112
C120
R169
R286
R274
R275
R276
L113
R144
R163
D137
D134
R271
IC109
C176
L109
L110
IC110
IC108
IC115
C401
R284
R201
R134
1-662-472-11
SONY
E

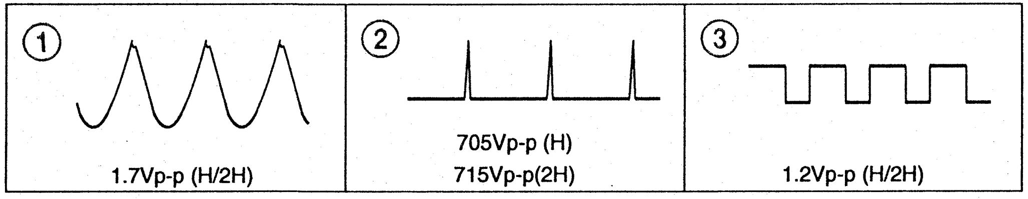
• ▨ : Pattern from the side which enables seeing.
• ▨ : Pattern of the rear side.

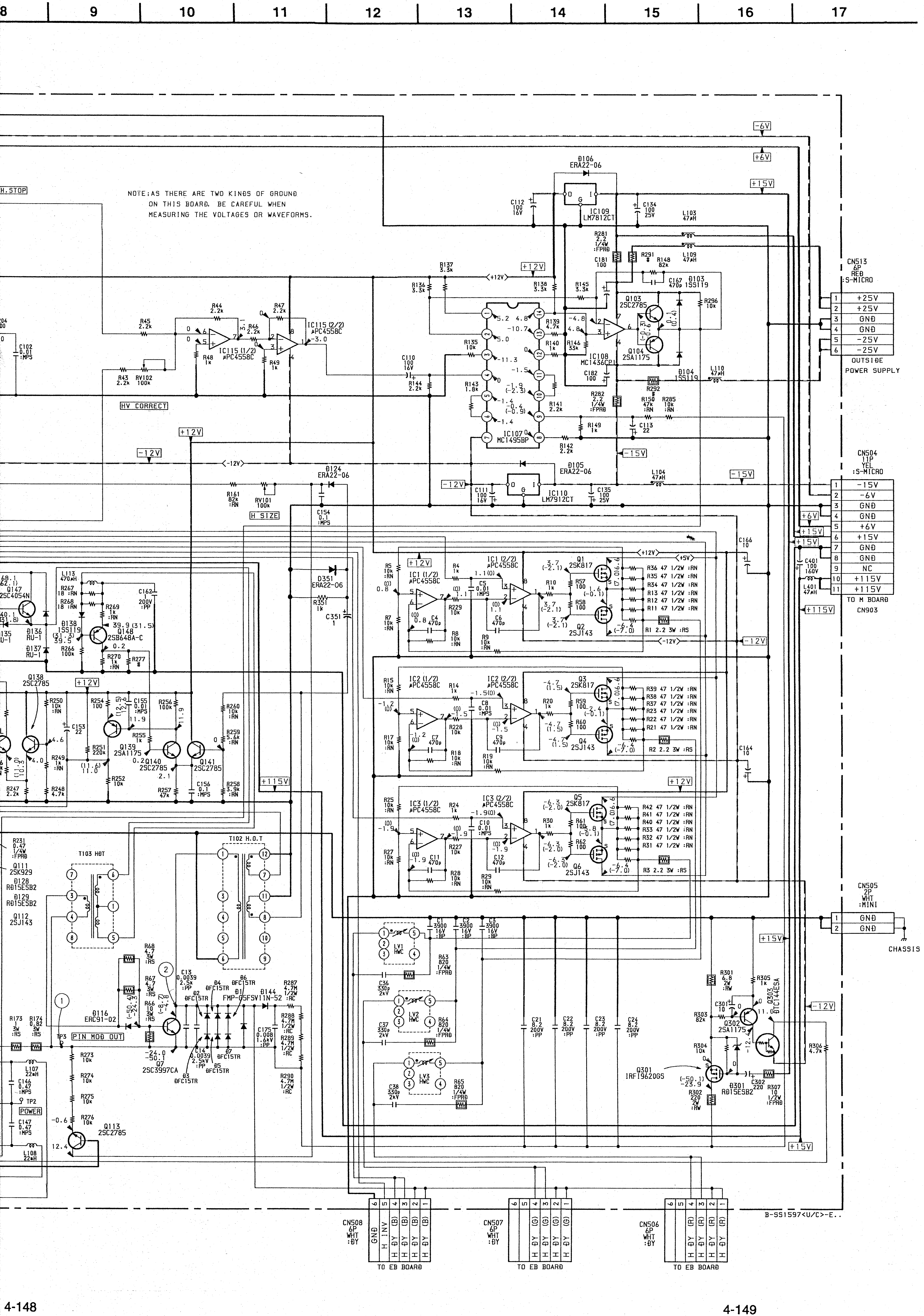
• E (H OUT, H CENT OUT, H OSC) DIAGRAM

• Refer to page 4-150 for Function of Semiconductor


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
TO EA BOARD CN521
DATA
GND
CLK
GND
LDB
GND
H.SIZE
H.CENT (R)
H.CENT (G)
H.SENT (B)
V.SIZE
VD
GND
V.PARA
FH.LIMIT
H.PARA
E-VID/RGB
HS
GND
VS
CN511
20P
:B TO B
TO EA BOARD CN522
AD.HD
GND
HD
GND
12V.HD
GND
H.OSC
+B.JUNG
H.STOP
F-V
Ref
SIZE.FB
SIZE.DET
PIN.MOD
-12V
-6V
GND
V.GND
+6V
+12V
CN512
20P
:B TO B
CN501
11P
BLK
:S-MICRO
HS
GND
VS
GND
HD
GND
H.STOP
H.INV
GND
E.VID/RGB
FH.LIMIT
TO M BOARD
CN904
CN502
7P
RED
:S-MICRO
DATA
GND
CLK
GND
LDB
GND
NC
TO D BOARD
CN407
CN503
6P
WHT
:S-MICRO
AD.HD
GND
VD
GND
H.SIZE
V.SIZE
TO D BOARD
CN408
CN509
11P
WHT
:S-MICRO
GND
H.PARA
GND
V.PARA
F-V
Ref
GND
GND
NC
-B
-B
TO M BOARD
CN902
CN510
9P
YEL
:S-MICRO
GND
HV
-CENT
GND
+CENT
NC
-VPM
VPM
+VPM
TO M BOARD
CN901
-6V
+6V
-12V
+12V
TP1
H.STOP
NOTE:AS THERE ARE TWO KINDS OF GROUND
ON THIS BOARD, BE CAREFUL WHEN
MEASURING THE VOLTAGES OR WAVEFORMS.
Q115
DTC144ESA
R204 100
C102 0.01 :MPS
IC115 (1/2) μPC4558C
IC115 (2/2) μPC4558C
R44 2.2k
R45 2.2k
R46 2.2k
R47 2.2k
R48 1k
R49 1k
R43 2.2k
RV102 100k
HV CORRECT
<-12V>
D124 ERA22-06
R161 82k :RN
RV101 100k
H SIZE
C154 0.1 :MPS
D351 ERA22-06
R351 1k
C351
C145 0.01 :MPS
-115V
R201 2.7k 3W :RS
R202 2.7k 3W :RS
R272 3.3 1/4W :FPRD
C158 10 160V :HR
R263 33k 1W :RS
Q143 2SC2688-L
Q144 2SC4054N
D146 ERA22-06
C160 1 200V :PP
C161 1
R264 10k
R265 100
D119 1SS119
D133 1SS119
Q145 2SK755
L111 22μH
R271 15k 3W :RS
Q146 2SC2688-L
Q147 2SC4054N
D134 RU-1
D135 RU-1
D136 RU-1
D137 RU-1
FB1
L113 470μH
R267 18 :RN
R268 18 :RN
D138 1SS119
R266 100k
R269 1k :RN
Q148 2SB648A-C
R270 1k :RN
R277
C162 1 200V :PP
Q138 2SC2785
+12V
D149 1SS119
Q130 2SC2785
C149 10
C177 10
R233 1k
R232 47k
Q131 2SA1175
Q137 2SC2688-L
R245 27k :RN
R246 3.9k :RN
R247 2.2k
R248 4.7k
R249 1k :RN
R250 10k :RN
C153 22
R251 220k
R252 10k
R254 100
Q139 2SA1175
R255 1k
C155 0.01 :MPS
R256 100k
Q140 2SC2785
Q141 2SC2785
R257 47k
C156 0.1 :MPS
R258 3.9k :RN
R259 5.6k :RN
R260 10k :RN
+115V
R286 100 5W :RS
C176 0.1 200V :PT
R134 22k :RN
R284 82k :RN
Q116 2SC2785
Q117 2SA1175
Q118 2SK523
R182 2.2k
R113 100
R114 1k
R160 1k
C144 0.1 :MPS
R183 100
D113 1SS119
L115 4.7μH
L106 68μH
C142 1000 200V
D127 RD15ESB2
D130 RD15ESB2
R172 1k
R171 1k
R230 0.47 1/4W :FPRD
R231 0.47 1/4W :FPRD
Q111 2SK929
D128 RD15ESB2
D129 RD15ESB2
Q112 2SJ143
D145 1SS119
D126 RD39ESB2
T103 HDT
T102 H.O.T
D109 ERA22-06
R174 1k 1/4W :FPRD
R167 47k
R147 2.2k
R169 10k 1/4W :FPRD
Q106 2SC2785
C129 10 200V
C128 10 200V
D114 RD20ESB2
IC112 (1/2) μPC4558C
IC112 (2/2) μPC4558C
R224 10k
R223 10k
R170 4.7k
C143 470p
D110 1SS119
D111 1SS119
D115 RD20ESB2
C120 10 200V
R173 1 3W :RS
R174 0.82 3W :RS
TP3
PIN MOD OUT
D116 ERC91-02
L107 22μH
C146 0.47 :MPS
TP2
POWER
C147 0.47 :MPS
L108 22μH
R273 10k
R274 10k
R275 10k
R276 10k
Q113 2SC2785
R68 4.7 3W :RS
R67 4.7 3W :RS
R66 10 3W :RS
Q7 2SC3997CA
C13 0.0039 2.5k :PP
C14 0.0039 2.5kV :PP
D1 FMP-05FSV
D144 1N-52
D2 DFC15TR
D3 DFC15TR
D4 DFC15TR
D5 DFC15TR
D6 DFC15TR
D7 DFC15TR
R287 4.7M 1/2W :RC
R288 4.7M 1/2W :RC
R289 4.7M 1/2W :RC
R290 4.7M 1/2W :RC
C175 0.008 1.6kV :PP
E
(H.OUT, H.CENT OUT)
(H.OSC)

E Board Waveforms




8
9
10
11
12
13
14
15
16
17
H.STOP
HV CORRECT
H SIZE
PIN MOD OUT
POWER
IC115 (1/2) μPC4558C
IC115 (2/2) μPC4558C
IC107 MC1495BP
IC108 MC1436CP1
IC109 LM7812CT
IC110 LM7912CT
IC1 (1/2) μPC4558C
IC1 (2/2) μPC4558C
IC2 (1/2) μPC4558C
IC2 (2/2) μPC4558C
IC3 (1/2) μPC4558C
IC3 (2/2) μPC4558C
Q1 2SK817
Q2 2SJ143
Q3 2SK817
Q4 2SJ143
Q5 2SK817
Q6 2SJ143
Q103 2SC2785
Q104 2SA1175
Q7 2SC3997CA
Q111 2SK929
Q112 2SJ143
Q113 2SC2785
Q138 2SC2785
Q139 2SA1175
Q140 2SC2785
Q141 2SC2785
Q147 2SC4054N
Q148 2SB648A-C
Q301 IRFI9620GS
Q302 2SA1175
Q303 DTC144ESA
T102 H.O.T
T103 HDT
LV1 HWC
LV2 HWC
LV3 HWC
CN513 6P RED :S-MICRO
+25V
+25V
GND
GND
-25V
-25V
OUTSIDE POWER SUPPLY
CN504 11P YEL :S-MICRO
-15V
-6V
GND
GND
+6V
+15V
GND
GND
NC
+115V
+115V
TO M BOARD CN903
CN505 2P WHT :MINI
GND
GND
CHASSIS
CN508 6P WHT :BY
GND
H INV
H DY (B)
H DY (B)
H DY (B)
H DY (B)
TO EB BOARD
CN507 6P WHT :BY
H DY (G)
H DY (G)
H DY (G)
H DY (G)
TO EB BOARD
CN506 6P WHT :BY
H DY (R)
H DY (R)
H DY (R)
H DY (R)
TO EB BOARD
B-SS1597<U/C>-E..

NOTE:AS THERE ARE TWO KINDS OF GROUND
ON THIS BOARD, BE CAREFUL WHEN
MEASURING THE VOLTAGES OR WAVEFORMS.

E BOARD
Function of Semiconductor

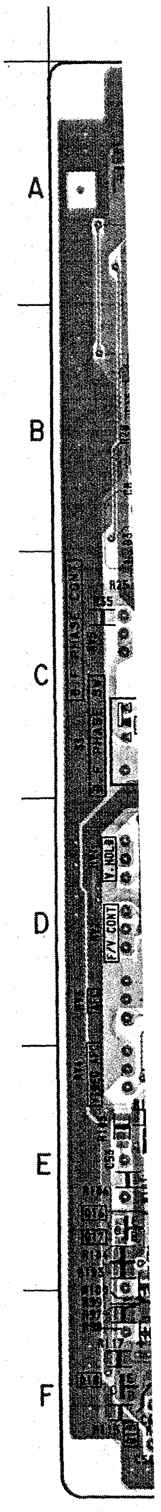
D1	FMP-G5FS	H OUT DAMPER
D2	DFC15TR	H OUT DAMPER
D3	DFC15TR	H OUT DAMPER
D4	DFC15TR	H OUT DAMPER
D5	DFC15TR	H OUT DAMPER
D6	DFC15TR	H OUT DAMPER
D7	DFC15TR	H OUT DAMPER
D103	1SS119-25	PROTECT
D104	1SS119-25	PROTECT
D105	ERA22-06AVRBT	PROTECT
D106	ERA22-06AVRBT	PROTECT
D109	ERA22-06AVRBT	CLAMP
D110	1SS119-25	LEVEL SHIFT
D111	1SS119-25	LEVEL SHIFT
D113	1SS119-25	PROTECT
D114	RD20ESB2	PROTECT
D115	RD20ESB2	PROTECT
D116	ERC91-02	SPEED UP
D119	1SS119-25	PROTECT
D124	ERA22-06AVRBT	H SIZE DET
D126	RD39ESB2	PIN MOD DET
D127	RD15ESB2	PROTECT
D128	RD15ESB2	PROTECT
D129	RD15ESB2	PROTECT
D130	RD15ESB2	PROTECT
D133	1SS119-25	SPEED UP
D134	RU-1	H DRIVE PROTECT
D135	RU-1	H DRIVE PROTECT
D136	RU-1	H DRIVE PROTECT
D137	RU-1	H DRIVE PROTECT
D138	1SS119-25	THERM CANCEL
D144	V11N	PROTECT
D145	1SS119-25	PROTECT
D146	ERA22-06AVRBT	PROTECT
D149	1SS119-25	VOLTAGE HOLD
D301	RD15ESB2	PROTECT
IC1	UPC4558C	H CENT DRIVE
IC2	UPC4558C	H CENT DRIVE
IC3	UPC4558C	H CENT DRIVE
IC107	MC1495BP	MOD LEVEL CONTROL
IC108	MC1436CP1	OPIN MOD PRE AMP
IC109	M7812CT	+12V REG
IC110	LM7912CT	−12V REG
IC112	UPC4558C	PIN MOD AMP
IC115	UPC4558C	HV MOD AMP
Q1	2SK817	+H CENT OUT (R)
Q2	2SJ143	−H CENT OUT (R)
Q3	2SK817	+H CENT OUT (G)
Q4	2SJ143	−H CENT OUT (G)
Q5	2SK817	+H CENT OUT (B)
Q6	2SJ143	−H CENT OUT (B)
Q7	2SC3997CA	H OUT
Q103	2SC2785-HFE	PIN MOD PRE BUFFER
Q104	2SA1175-HFE	PIN MOD PRE BUFFER
Q106	2SC2785-HFE	PIN MOD PROTECT
Q111	2SK929	PIN MOD OUT
Q112	2SJ143	PIN MOD OUT
Q113	2SC2785-HFE	H SIZE CONST
Q115	DTC144ESA-TP	H STOP SW
Q116	2SC2785-HFE	HD OUT
Q117	2SA1175-HFE	HD OUT
Q118	2SK523-TP-M1	HD DRIVE
Q130	2SC2785-HFE	H OSC BUFFER
Q131	2SA1175-HFE	H OSC BUFFER
Q137	2SC2688-L	IB CONTROL
Q138	2SC2785-HFE	IB CONTROL
Q139	2SA1175-HFE	IB CONTROL
Q140	2SC2785-HFE	IB DET
Q141	2SC2785-HFE	H PULSE DETECT
Q143	2SC2688-L	H DRIVE REG
Q144	2SC4054N	H DRIVE REG
Q145	2SK755	H DRIVE
Q146	2SC2688-L	HD DRIVE BUFFER
Q147	2SC4054N	HD DRIVE BUFFER
Q148	2SB648A-C	IB DETECTOR
Q301	IRFI9620GS	DISCHARGE SW
Q302	2SA1175-HFE	CURRENT DETECT
Q303	DTC144ESA-TP	H STOP SW

EA BOARD
Semiconductor Location

DIODE	
D1	A-1
D2	A-1
D3	C-1
D4	A-2
D5	A-3
D6	A-3
D7	A-3
D8	E-1
D9	E-1
D10	D-2
D11	D-2
D12	E-2
D13	E-3
D14	E-3
D15	E-3
D16	E-3
D17	E-3
D301	D-6
D302	C-6
D303	C-2
IC	
IC1	A-7
IC2	B-7
IC3	A-7
IC4	B-7
IC5	C-3
IC6	A-4
IC7	A-3
IC8	A-6
IC9	A-3
IC10	B-6
IC11	B-5
IC12	D-7
IC13	E-8
IC14	E-8
IC15	D-2
IC16	F-1
IC17	C-7
IC18	D-7
IC19	D-6
IC20	D-6
IC21	E-6
IC22	F-6
IC23	F-5
IC24	E-6
IC31	C-5
IC251	C-5
IC301	D-6
TRANSISTOR	
Q1	A-1
Q2	A-1
Q3	B-2
Q4	B-2
Q5	C-1
Q6	B-1
Q7	B-1
Q8	A-1
Q9	A-6
Q10	A-2
Q11	A-2
Q12	A-2
Q13	B-4
Q14	E-1
Q15	D-1
Q16	E-1
Q17	E-1
Q18	F-1
Q19	F-1
Q20	F-1
Q21	F-1
Q22	C-6
Q23	D-2
Q24	E-7
Q25	E-7
Q26	E-2
Q27	E-2
Q28	E-2
Q29	E-2
VARIABLE RESISTOR	
RV1	D-1
RV2	D-1
RV3	D-1
RV4	E-1
RV5	C-1
TEST POINT	
TP1	C-1
TP2	C-1
TP3	C-1
TP4	C-2
TP5	C-2
TP6	B-4
TP7	F-1
TP8	C-1
TP9	C-2
TP10	D-2
TP11	D-3
TP12	D-3
TP13	F-3
TP14	E-3
TP15	D-3
TP16	D-2
TP17	C-4
TP18	C-4
TP19	E-3

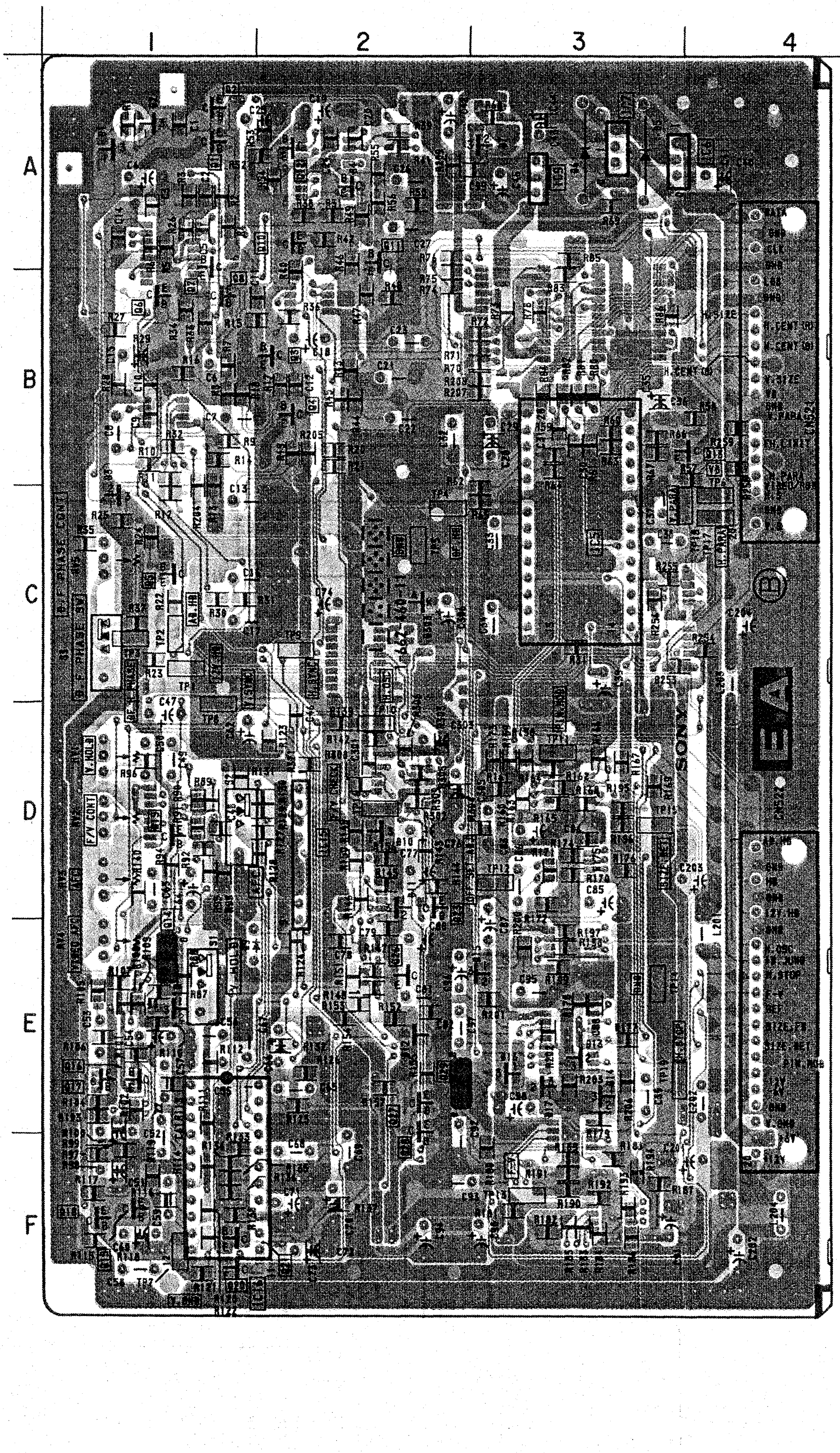
EA

— EA BO

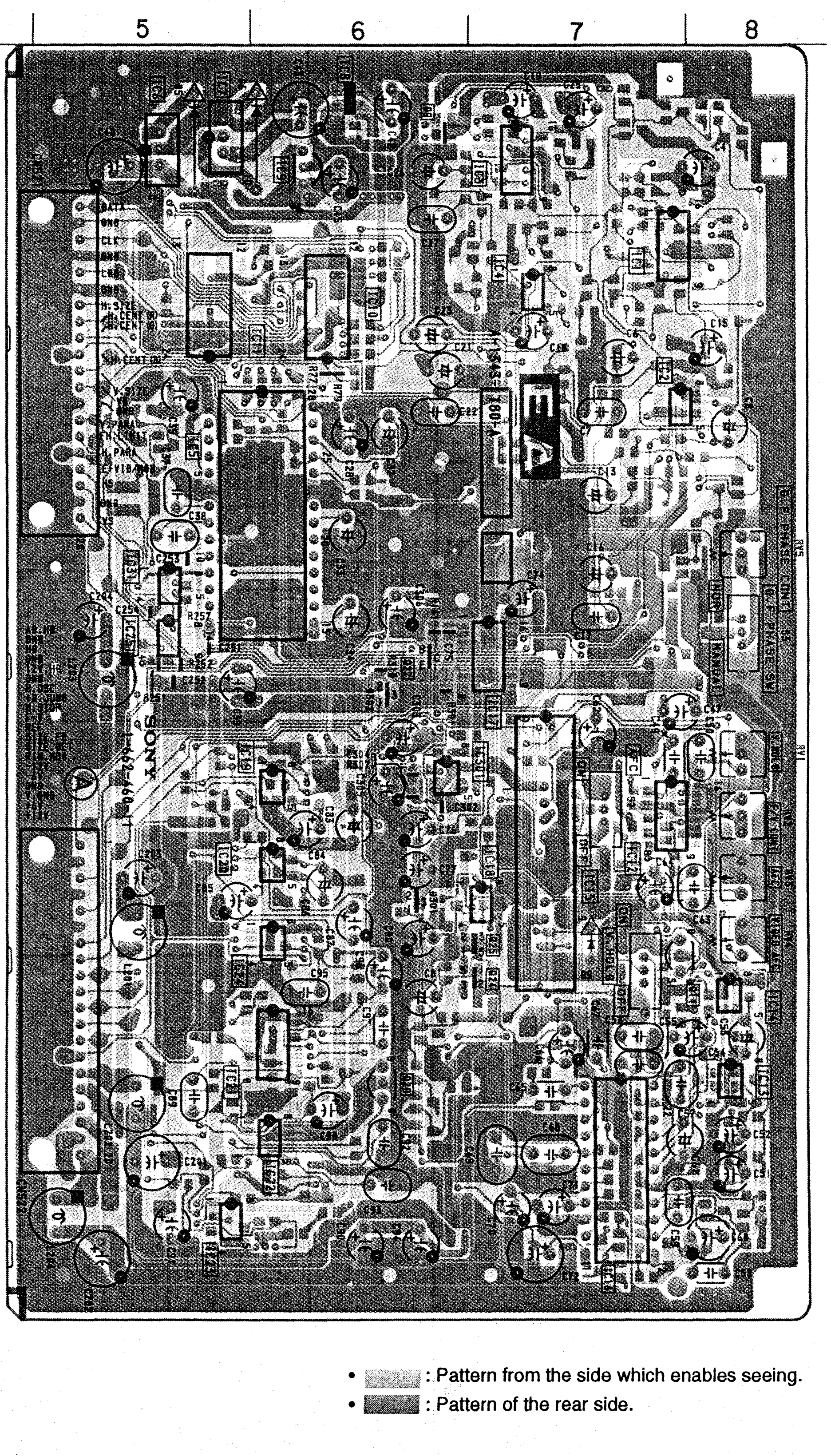


EA (AFC, H SHIFT, H SIZE CENT ADJ) BOARD

— EA BOARD — <Conductor side>

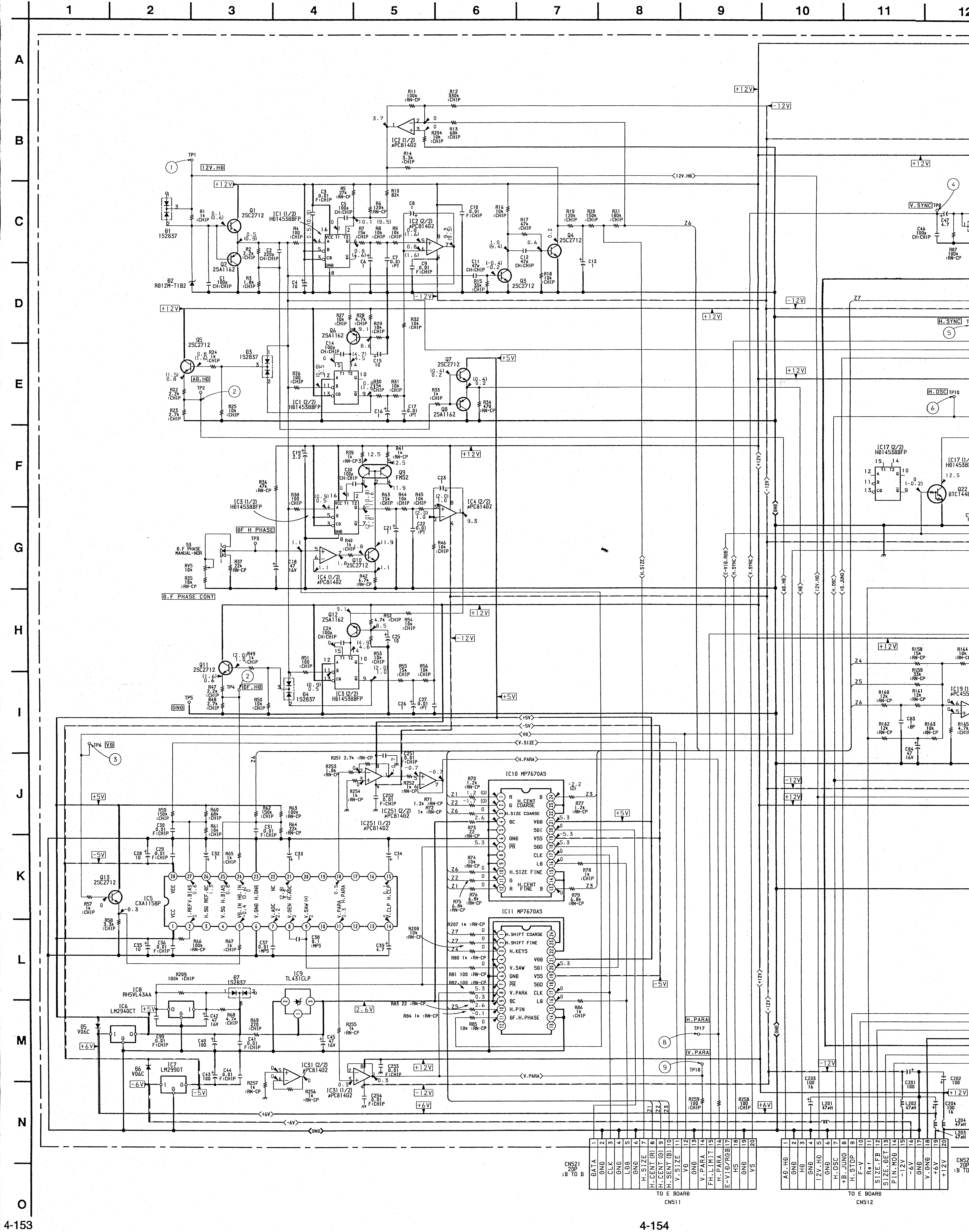

1
2
3
4
A
B
C
D
E
F
SONY
EA

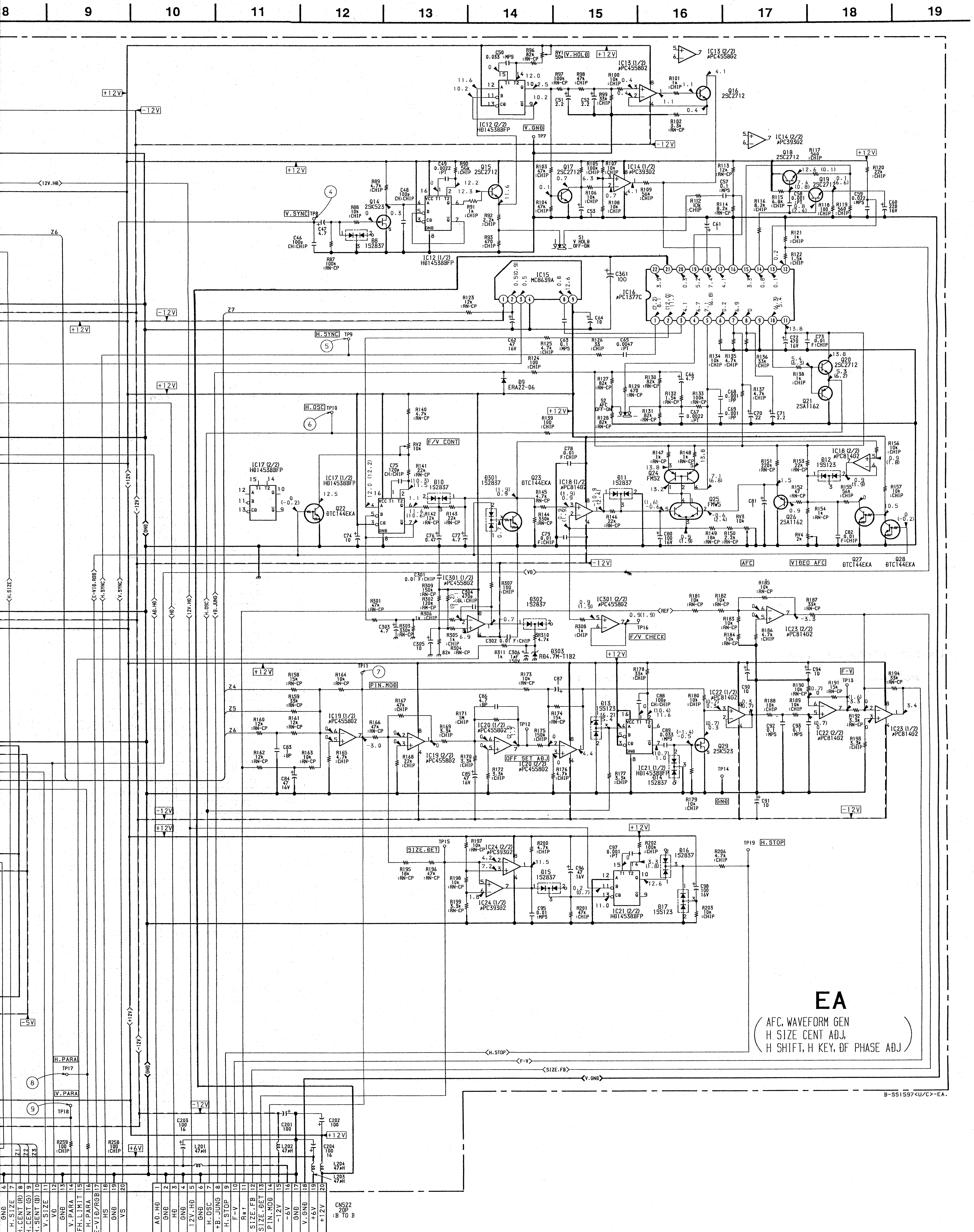
— EA BOARD — <Component side>


5
6
7
8
SONY
EA

- ░ : Pattern from the side which enables seeing.
- ▓ : Pattern of the rear side.

- **EA (AFC, H SHIFT, H SIZE CENT ADJ) DIAGRAM**
- Refer to page 4-156 for Waveforms
- Refer to page 4-156 for Function of Semiconductor
- Refer to page 4-157 for IC Block Diagrams

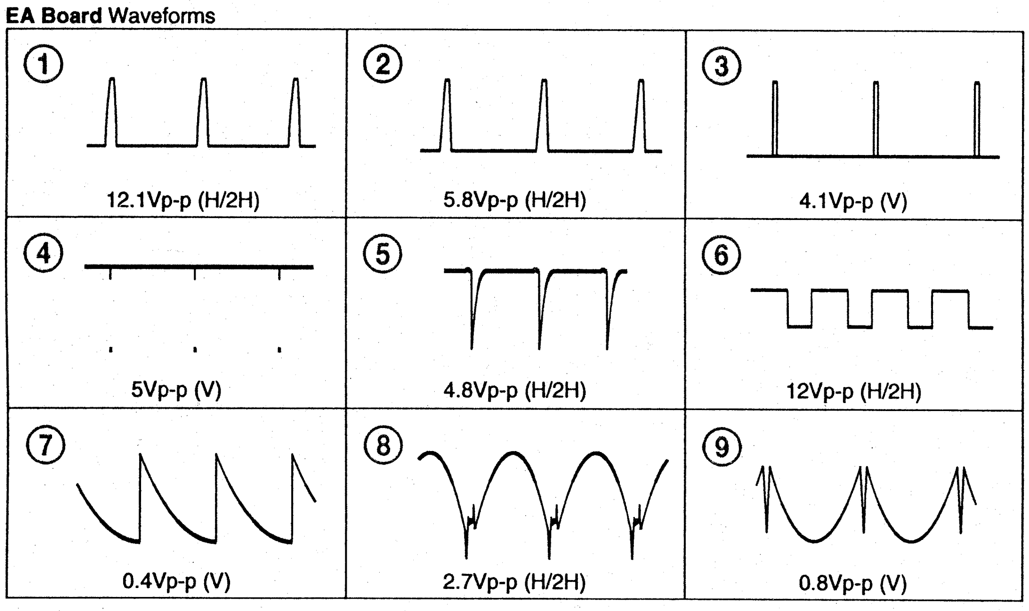

IC5 CXA1158P
IC10 MP7670AS
IC11 MP7670AS
IC1 (1/2) HD14538BFP
IC1 (2/2) HD14538BFP
IC2 (1/2) μPC81462
IC2 (2/2) μPC81462
IC3 (1/2) HD14538BFP
IC3 (2/2) HD14538BFP
IC4 (1/2) μPC81462
IC4 (2/2) μPC81462
IC6 LM2940CT
IC7 LM2990T
IC8 RH5VL43AA
IC9 TL431CLP
IC17 (2/2) HD14538BFP
IC251 (1/2) μPC81462
IC251 (2/2) μPC81462
IC31 (1/2) μPC81462
IC31 (2/2) μPC81462
S3 B.F PHASE MANUAL-NOR
B.F PHASE CONT
DF H PHASE
CN521 20P :B TO B
TO E BOARD CN511
TO E BOARD CN512
DATA
GND
CLK
GND
LDB
GND
H.SIZE
H.CENT (R)
H.CENT (G)
H.SENT (B)
V.SIZE
VD
GND
V.PARA
FH.LIMIT
H.PARA
E-VID/RGB
HS
GND
VS
AD.HD
GND
HD
GND
12V.HD
GND
H.OSC
+B.JUNG
H.STOP
F-V
Ref
SIZE.FB
SIZE.DET
PIN.MOD
-12V
-6V
GND
V.GND
+6V
+12V


8
9
10
11
12
13
14
15
16
17
18
19
EA
AFC, WAVEFORM GEN
H SIZE CENT ADJ.
H SHIFT, H KEY, DF PHASE ADJ
B-SS1597<U/C>-EA.
IC12 (1/2) HD14538BFP
IC12 (2/2) HD14538BFP
IC13 (1/2) μPC4558G2
IC13 (2/2) μPC4558G2
IC14 (1/2) μPC393G2
IC14 (2/2) μPC393G2
IC15 MC8639A
IC16 μPC1377C
IC17 (1/2) HD14538BFP
IC17 (2/2) HD14538BFP
IC18 (1/2) μPC814G2
IC18 (2/2) μPC814G2
IC19 (1/2) μPC4558G2
IC19 (2/2) μPC4558G2
IC20 (1/2) μPC4558G2
IC20 (2/2) μPC4558G2
IC21 (1/2) HD14538BFP
IC21 (2/2) HD14538BFP
IC22 (1/2) μPC814G2
IC22 (2/2) μPC814G2
IC23 (1/2) μPC814G2
IC23 (2/2) μPC814G2
IC24 (1/2) μPC393G2
IC24 (2/2) μPC393G2
IC301 (1/2) μPC4558G2
IC301 (2/2) μPC4558G2
Q14 2SK523
Q15 2SC2712
Q16 2SC2712
Q17 2SC2712
Q18 2SC2712
Q19 2SC2712
Q20 2SC2712
Q21 2SA1162
Q22 DTC144EKA
Q23 DTC144EKA
Q24 FMS2
Q25 FMW5
Q26 2SA1162
Q27 DTC144EKA
Q28 DTC144EKA
Q29 2SK523
D9 ERA22-06
D303 RD4.7M-T1B2
RV1 50k V.HOLD
RV2 10k F/V CONT
S1 V HOLD OFF-ON
S2 AFC OFF-ON
V.SYNC TP8
V.GND TP7
H.SYNC TP9
H.OSC TP10
PIN.MOD TP11
OFF SET ADJ TP12
F-V TP13
TP14
SIZE.DET TP15
F/V CHECK TP16
H.PARA TP17
V.PARA TP18
H.STOP TP19
AFC
VIDEO AFC
GND
+12V
-12V
+6V
-5V
H.SIZE
E-VID.RGB
H.SYNC
V.SYNC
AD.HD
HD
12V.HD
H.OSC
+B.JUNG
VD
REF
H.STOP
F-V
SIZE.FB
V.GND
Z1
Z2
Z3
Z4
Z5
Z6
Z7
GND 6
H.SIZE 7
H.CENT (R) 8
H.CENT (G) 9
H.SENT (B) 10
V.SIZE 11
VD 12
GND 13
V.PARA 14
FH.LIMIT 15
H.PARA 16
E-VID/RGB 17
HS 18
GND 19
VS 20
TO E BOARD
CN511
AD.HD 1
GND 2
HD 3
GND 4
12V.HD 5
GND 6
H.OSC 7
+B.JUNG 8
H.STOP 9
F-V 10
Ref 11
SIZE.FB 12
SIZE.DET 13
PIN.MOD 14
-12V 15
-6V 16
GND 17
V.GND 18
+6V 19
+12V 20
TO E BOARD
CN512
CN522 20P :B TO B
C201 100
C202 100
C203 100 16
C204 100 16
L201 47μH
L202 47μH
L203 47μH
L204 47μH
R258 100 :CHIP
R259 100 :CHIP
C361 100

Schematic Diagram

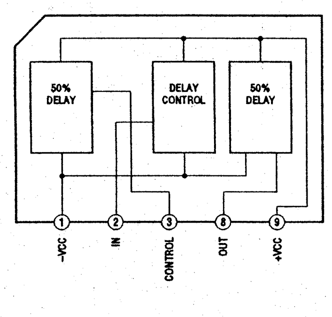
N board →

EA Board Waveforms

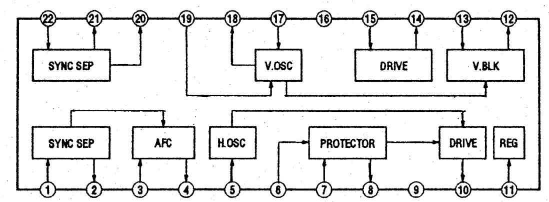


EA Board IC Block Diagrams

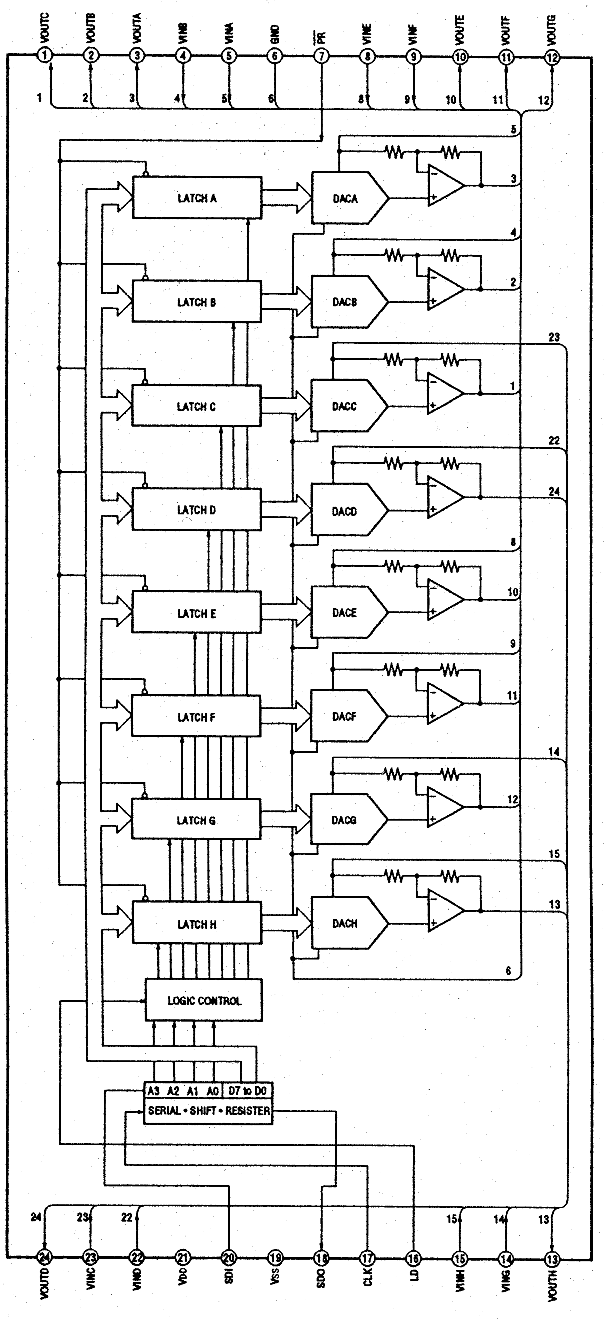
MC8639A2 (IC15)


50% DELAY
DELAY CONTROL
50% DELAY
-VCC
IN
CONTROL
OUT
+VCC

µPC1377C (IC16)


SYNC SEP
V.OSC
DRIVE
V.BLK
SYNC SEP
AFC
H.OSC
PROTECTOR
DRIVE
REG

MP7670AS (IC10, 11)


VOUTC
VOUTB
VOUTA
VINB
VINA
GND
PR
VINE
VINF
VOUTE
VOUTF
VOUTG
LATCH A
LATCH B
LATCH C
LATCH D
LATCH E
LATCH F
LATCH G
LATCH H
DACA
DACB
DACC
DACD
DACE
DACF
DACG
DACH
LOGIC CONTROL
A3 A2 A1 A0 D7 to D0
SERIAL • SHIFT • RESISTER
VOUTD
VINC
VIND
VDD
SDI
VSS
SDO
CLK
LD
VINH
VING
VOUTH

EA BOARD

Function of Semiconductor

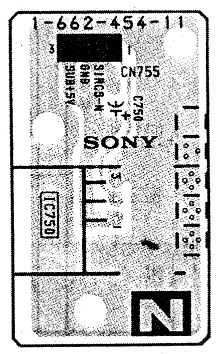
D1	1S2837	SPEED UP-1	Q14
D2	RD12M-B2	HD PROT	Q15
D3	1S2837	ADFD HD MIX	Q16
D4	1S2837	DFHD, HD MIX	Q17
D5	V06C	PROTECT	Q18
D6	V06C	PROTECT	Q19
D7	1S2837	+5V DISCHARGE	Q20
D8	1S2837	V SYNC CLAMP	Q21
D9	ERA22-06AVRBT	H OUT PROT	Q22
D10	1S2837	SPEED UP-2	Q23
D11	1S2837	SPEED UP	Q24
D12	1SS123	LEVEL SHIFT	Q25
D13	1SS123	H OSC CLAMP	Q26
D14	1S2837	F-V PULSE CLAMP	Q27
D15	1S2837	H SIZE PROT SW	Q28
D16	1S2837	H STOP GATE-1	Q29
D17	1SS123	H STOP GATE-2	
D301	1S2837	F/H LIMITTER	
D302	1S2837	PROTECT	
D303	RD4.7M-B2	PROTECT	
IC1	HD14538BFP-TL	AD HD GENERATOR	
IC2	UPC814G2-E2	AD HD COMP	
IC3	HD14538BFP	D.F HD GEN	
IC4	UPC814G2-E2	D.F HD COMP	
IC5	CXA1158P	WAVEFORM GENERATOR	
IC6	LM2940CT-5.0	+5V REG	
IC7	LM2990T-5.0	–5V REG	
IC8	RH5VL43AA-T1	POWER ON RESET	
IC9	TL431CLP-Z	VOLTAGE REF	
IC10	MP7670AS-TE2	H SIZE CENT ADJ	
IC11	MP7670AS-TE2	H SHIFT, H KEY, DF PHASE	
IC12	HD14538BFP-TL	VD GEN	
IC13	UPC4558G2-T2	V AFC 1	
IC14	UPC393G2-T2	V AFC 2	
IC15	MC-8639A	H SHIFT	
IC16	UPC1377C	AFC	
IC17	HD14538BFP-TL	PULSE GEN	
IC18	UPC814G2-E2	F/V BUFF	
IC19	UPC4558G2-T2	F-V AMP	
IC20	UPC4558G2-T2	F-V AMP	
IC21	HD14538BFP-TL	H PULSE GENERATOR	
IC22	UPC814G2-E2	F-V AMP	
IC23	UPC814G2-E2	F-V AMP	
IC24	UPC393G2-T2	H SIZE PROTECT	
IC31	UPC814G2-E2	D.F V.P BUFFER	
IC251	UPC814G2-E2	D.F H.P AMP	
IC301	UPC4558G2-T2	FH LIMIT COMP	
Q1	2SC2712-YG	HD BUFFER-1	
Q2	2SA1162-YG	HD BUFFER-2	
Q3	2SC2712-YG	HD AMP-1	
Q4	2SC2712-YG	HD AMP-2	
Q5	2SC2712-YG	HD BUFFER	
Q6	2SA1162-YG	V.I CONVERTER	
Q7	2SC2712-YG	HD BUFFER 3	
Q8	2SA1162-YG	HD BUFFER 4	
Q9	FMS2	CURRENT MIRROR	
Q10	2SC2712-YG	D.F.P CONT BUFFER	
Q11	2SC2712-YG	DF HD BUFFER	
Q12	2SA1162-YG	V-I CONVERTER	
Q13	2SC2712-YG	VD BUFFER	

or

	SPEED UP-1	Q14	2SK523-M1	V.SYNC INV
	HD PROT	Q15	2SC2712-YG	VD BUFFER
	ADFD HD MIX	Q16	2SC2712-YG	V AFC AMP
	DFHD, HD MIX	Q17	2SC2712-YG	V AFC SW
	PROTECT	Q18	2SC2712-YG	V PULSE BUFFER
	PROTECT	Q19	2SC2712-YG	V PULSE INVERTER
	+5V DISCHARGE	Q20	2SC2712-YG	H OSC BUFF-1
	V SYNC CLAMP	Q21	2SA1162-YG	H OSC BUFF-2
BT	H OUT PROT	Q22	DTC144EKA-T146	SW-1
	SPEED UP-2	Q23	DTC144EKA-T146	SW-2
	SPEED UP	Q24	FMS2	CURRENT MIRROR
	LEVEL SHIFT	Q25	FMW5	V-1 CONVERTER
	H OSC CLAMP	Q26	2SA1162-YG	VIDEO F/V BUFFER
	F-V PULSE CLAMP	Q27	DTC144EKA-T146	SW-3
	H SIZE PROT SW	Q28	DTC144EKA-T146	VIDEO/RGB SW INVERTER
	H STOP GATE-1	Q29	2SK523-M1	F-V SW
	H STOP GATE-2			
	F/H LIMITTER			
	PROTECT			
	PROTECT			
-TL	AD HD GENERATOR			
2	AD HD COMP			
	D.F HD GEN			
2	D.F HD COMP			
	WAVEFORM GENERATOR			
0	+5V REG			
	–5V REG			
T1	POWER ON RESET			
	VOLTAGE REF			
E2	H SIZE CENT ADJ			
E2	H SHIFT, H KEY, DF PHASE			
-TL	VD GEN			
T2	V AFC 1			
2	V AFC 2			
	H SHIFT			
	AFC			
-TL	PULSE GEN			
2	F/V BUFF			
T2	F-V AMP			
T2	F-V AMP			
-TL	H PULSE GENERATOR			
2	F-V AMP			
2	F-V AMP			
2	H SIZE PROTECT			
2	D.F V.P BUFFER			
2	D.F H.P AMP			
T2	FH LIMIT COMP			
	HD BUFFER-1			
	HD BUFFER-2			
	HD AMP-1			
	HD AMP-2			
	HD BUFFER			
	V.I CONVERTER			
	HD BUFFER 3			
	HD BUFFER 4			
	CURRENT MIRROR			
	D.F.P CONT BUFFER			
	DF HD BUFFER			
	V-I CONVERTER			
	VD BUFFER			

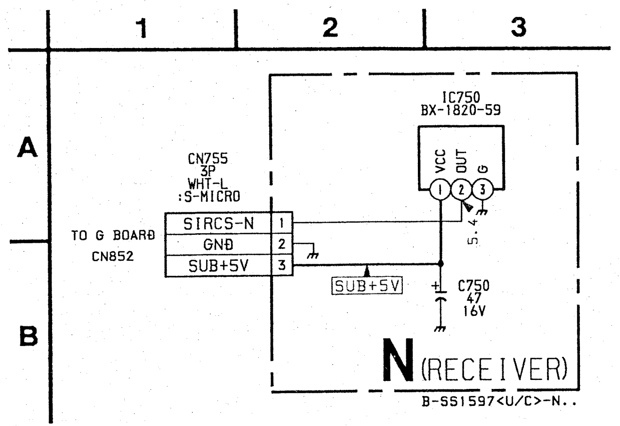
N (RECEIVER) BOARD

— N BOARD — <Conductor side>



1-662-454-11
3
1
CN755
SUB+5V
GND
SIRCS-N
C750
SONY
IC750
N

• N (RECEIVER) DIAGRAM



1
2
3
A
B
IC750
BX-1820-59
VCC
OUT
G
1
2
3
5.4
CN755
3P
WHT-L
:S-MICRO
TO G BOARD
CN852
SIRCS-N
GND
SUB+5V
1
2
3
SUB+5V
C750
47
16V
N (RECEIVER)
B-SS1597<U/C>-N..

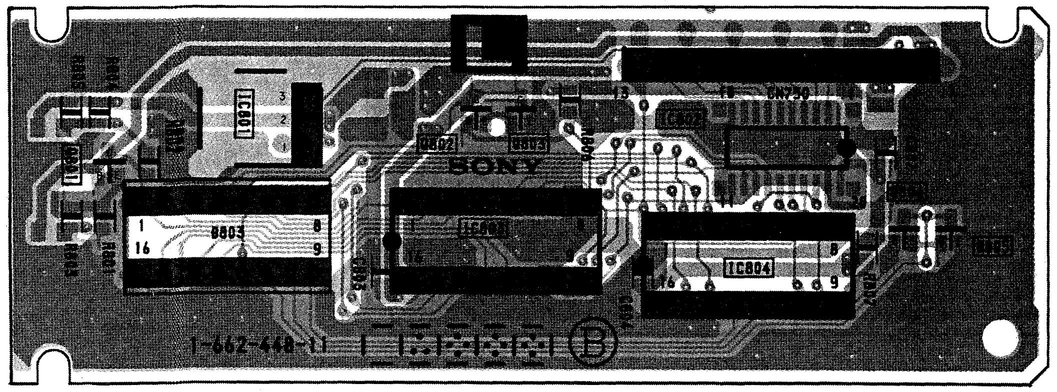
N BOARD

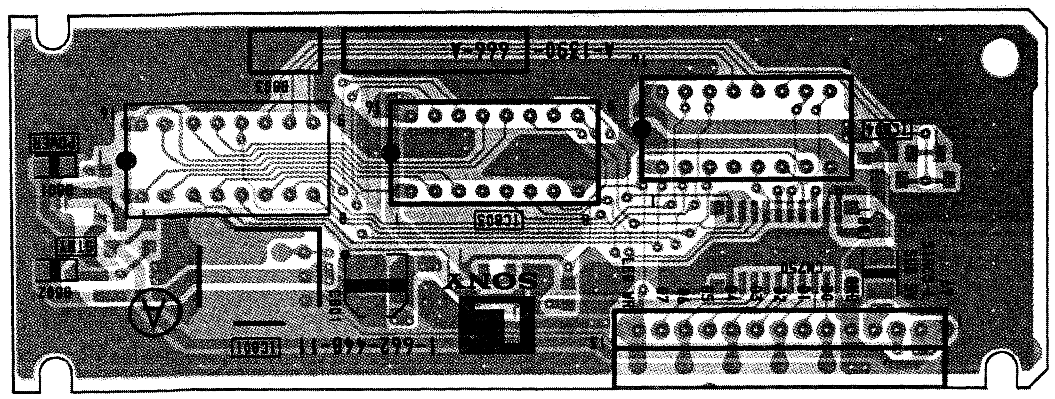
Function of Semiconductor

IC750	SBX1820-59	IR RECEIVER

L (KEY CONTROL) BOARD

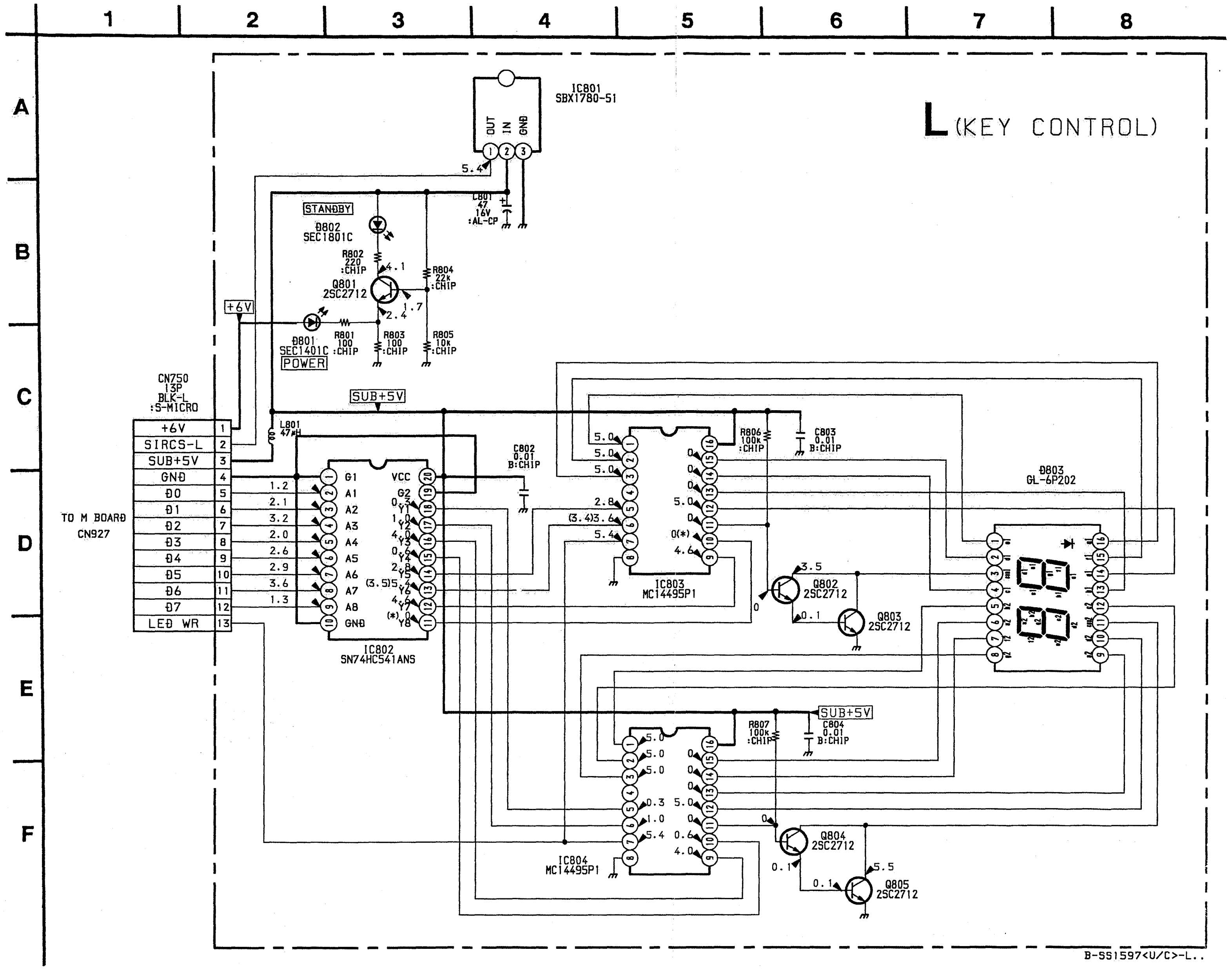
— L BOARD — <Conductor side>


IC801
D803
IC802
IC804
SONY
1-662-448-11


IC803
CN750
SONY
1-662-448-11

- ░ : Pattern from the side which enables seeing.
- ▓ : Pattern of the rear side.

• L (KEY CONTROL) DIAGRAM


1
2
3
4
5
6
7
8
A
B
C
D
E
F
L (KEY CONTROL)
IC801
SBX1780-51
OUT
IN
GND
STANDBY
D802
SEC1801C
R802
220
:CHIP
Q801
2SC2712
R804
22k
:CHIP
R805
10k
:CHIP
C801
47
16V
:AL-CP
+6V
D801
SEC1401C
R801
100
:CHIP
R803
100
:CHIP
POWER
SUB+5V
CN750
13P
BLK-L
:S-MICRO
+6V
SIRCS-L
SUB+5V
GND
D0
D1
D2
D3
D4
D5
D6
D7
LED WR
TO M BOARD
CN927
L801
47µH
G1
A1
A2
A3
A4
A5
A6
A7
A8
GND
VCC
G2
IC802
SN74HC541ANS
C802
0.01
B:CHIP
IC803
MC14495P1
R806
100k
:CHIP
C803
0.01
B:CHIP
D803
GL-6P202
Q802
2SC2712
Q803
2SC2712
R807
100k
:CHIP
C804
0.01
B:CHIP
IC804
MC14495P1
Q804
2SC2712
Q805
2SC2712
B-SS1597<U/C>-L..

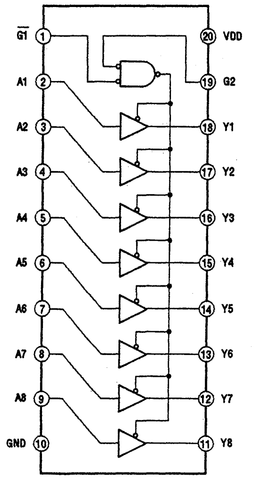
L BOARD

Function of Semiconductor

D801	SEC1401C	POWER LED
D802	SEC1801C	STANDBY LED
D803	GL-6P202	INDICATOR
IC801	SBX1780-51	IR RECEIVER
IC802	SN74HC541ANS	BUFFER
IC803	MC14495P1	7 SEGM DECODER
IC804	MC14495P1	7 SEGM DECODER
Q801	2SC2712-YG	LED DRIVE
Q802	2SC2712-YG	COM DRIVE
Q803	2SC2712-YG	COM DRIVE
Q804	2SC2712-YG	COM DRIVE
Q805	2SC2712-YG	COM DRIVE

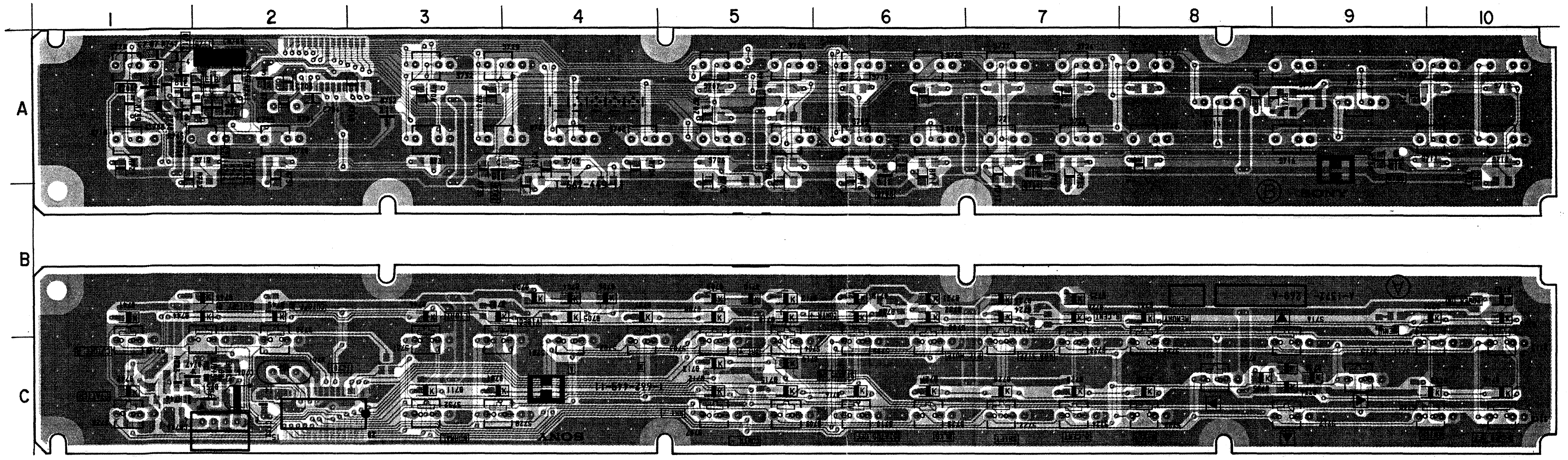
L Board IC Block Diagrams

SN74HC541ANS(IC802)


G1
A1
A2
A3
A4
A5
A6
A7
A8
GND
VDD
G2
Y1
Y2
Y3
Y4
Y5
Y6
Y7
Y8

H (CUSTOMER CONTROL) BOARD

— H BOARD — <Conductor side>



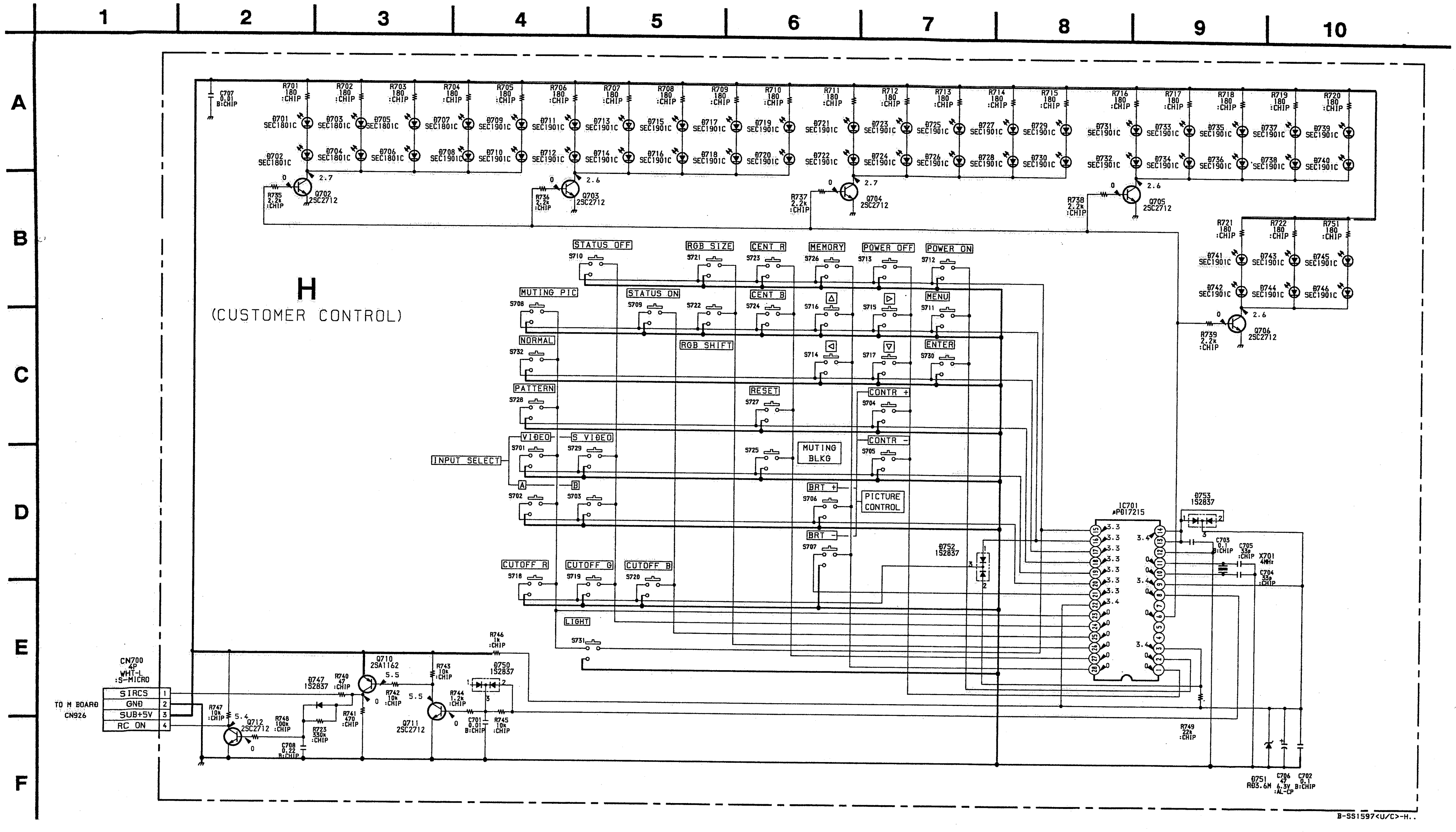
- ▒ : Pattern from the side which enables seeing.
- ▓ : Pattern of the rear side.

H BOARD
Semiconductor Location

DIODE					
		D721	B-6	D744	B-2
		D722	B-6	D745	B-2
		D723	B-7	D746	B-3
D701	C-3	D724	B-7	D747	C-1
D702	B-3	D725	B-7	D750	A-1
D703	B-4	D726	B-7	D751	C-2
D704	B-4	D727	C-6	D752	A-3
D705	B-4	D728	C-7		
D706	B-4	D729	C-7	D753	A-2
D707	B-4	D730	C-8		
D708	C-5			IC	
D709	C-5	D731	B-8		
D710	C-5	D732	B-10	IC701	C-2
		D733	B-10		
D711	C-3	D734	B-10	TRANSISTOR	
D712	C-5	D735	C-8		
D713	C-5	D736	C-9	Q702	A-3
D714	C-5	D737	C-9	Q703	A-6
D715	C-5	D738	C-9	Q704	A-7
D716	C-6	D739	C-10	Q705	A-10
D717	B-5	D740	C-10	Q706	A-1
D718	B-5	D741	B-1	Q710	A-2
D719	B-6	D742	C-1	Q711	A-2
D720	B-6	D743	B-2	Q712	A-1

Schematic Diagram
← L **board**

• H (CUSTOMER CONTROL) DIAGRAM


1
2
3
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5
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7
8
9
10
A
B
C
D
E
F
H
(CUSTOMER CONTROL)
STATUS OFF
RGB SIZE
CENT R
MEMORY
POWER OFF
POWER ON
MUTING PIC
STATUS ON
CENT B
MENU
NORMAL
RGB SHIFT
ENTER
PATTERN
RESET
CONTR +
VIDEO
S VIDEO
CONTR -
INPUT SELECT
MUTING BLKG
BRT +
PICTURE CONTROL
BRT -
CUTOFF R
CUTOFF G
CUTOFF B
LIGHT
IC701 µPD17215
X701 4MHz
CN700 4P WHT-L :S-MICRO
SIRCS
GND
SUB+5V
RC ON
TO M BOARD CN926
Q702 2SC2712
Q703 2SC2712
Q704 2SC2712
Q705 2SC2712
Q706 2SC2712
Q710 2SA1162
Q711 2SC2712
Q712 2SC2712
D751 RD3.6M
D752 1S2837
D753 1S2837
B-SS1597<U/C>-H..

H BOARD

Function of Semiconductor

D701	SEC1801C	INDICATOR	D720	SEC1901C	INDICATOR	D739	SEC1901C	INDICATOR	Q705	2SC2712-YG	LED DRIVE
D702	SEC1801C	INDICATOR	D721	SEC1901C	INDICATOR	D740	SEC1901C	INDICATOR	Q706	2SC2712-YG	LED DRIVE
D703	SEC1801C	INDICATOR	D722	SEC1901C	INDICATOR	D741	SEC1901C	INDICATOR	Q710	2SA1162-YG	SERCS DET
D704	SEC1801C	INDICATOR	D723	SEC1901C	INDICATOR	D742	SEC1901C	INDICATOR	Q711	2SC2712-YG	SERCS DET
D705	SEC1801C	INDICATOR	D724	SEC1901C	INDICATOR	D743	SEC1901C	INDICATOR	Q712	2SC2712-YG	SERCS DET
D706	SEC1801C	INDICATOR	D725	SEC1901C	INDICATOR	D744	SEC1901C	INDICATOR			
D707	SEC1801C	INDICATOR	D726	SEC1901C	INDICATOR	D745	SEC1901C	INDICATOR			
D708	SEC1901C	INDICATOR	D727	SEC1901C	INDICATOR	D746	SEC1901C	INDICATOR			
D709	SEC1901C	INDICATOR	D728	SEC1901C	INDICATOR	D747	1S2837	SERCS DET			
D710	SEC1901C	INDICATOR	D729	SEC1901C	INDICATOR	D750	1S2837	SERCS DET			
D711	SEC1901C	INDICATOR	D730	SEC1901C	INDICATOR	D751	RD3.6M-B2	DC SHIFT			
D712	SEC1901C	INDICATOR	D731	SEC1901C	INDICATOR	D752	1S2837	CUT OFF SW			
D713	SEC1901C	INDICATOR	D732	SEC1901C	INDICATOR	D753	1S2837	PROTECT			
D714	SEC1901C	INDICATOR	D733	SEC1901C	INDICATOR						
D715	SEC1901C	INDICATOR	D734	SEC1901C	INDICATOR	IC701	UPD17215	SERCS ENCODER			
D716	SEC1901C	INDICATOR	D735	SEC1901C	INDICATOR						
D717	SEC1901C	INDICATOR	D736	SEC1901C	INDICATOR	Q702	2SC2712-YG	LED DRIVE			
D718	SEC1901C	INDICATOR	D737	SEC1901C	INDICATOR	Q703	2SC2712-YG	LED DRIVE			
D719	SEC1901C	INDICATOR	D738	SEC1901C	INDICATOR	Q704	2SC2712-YG	LED DRIVE			

PA (HV REG, G2 CONTROL, DF (H/V) BUFFER) BOARD

PA BOARD
Semiconductor Location

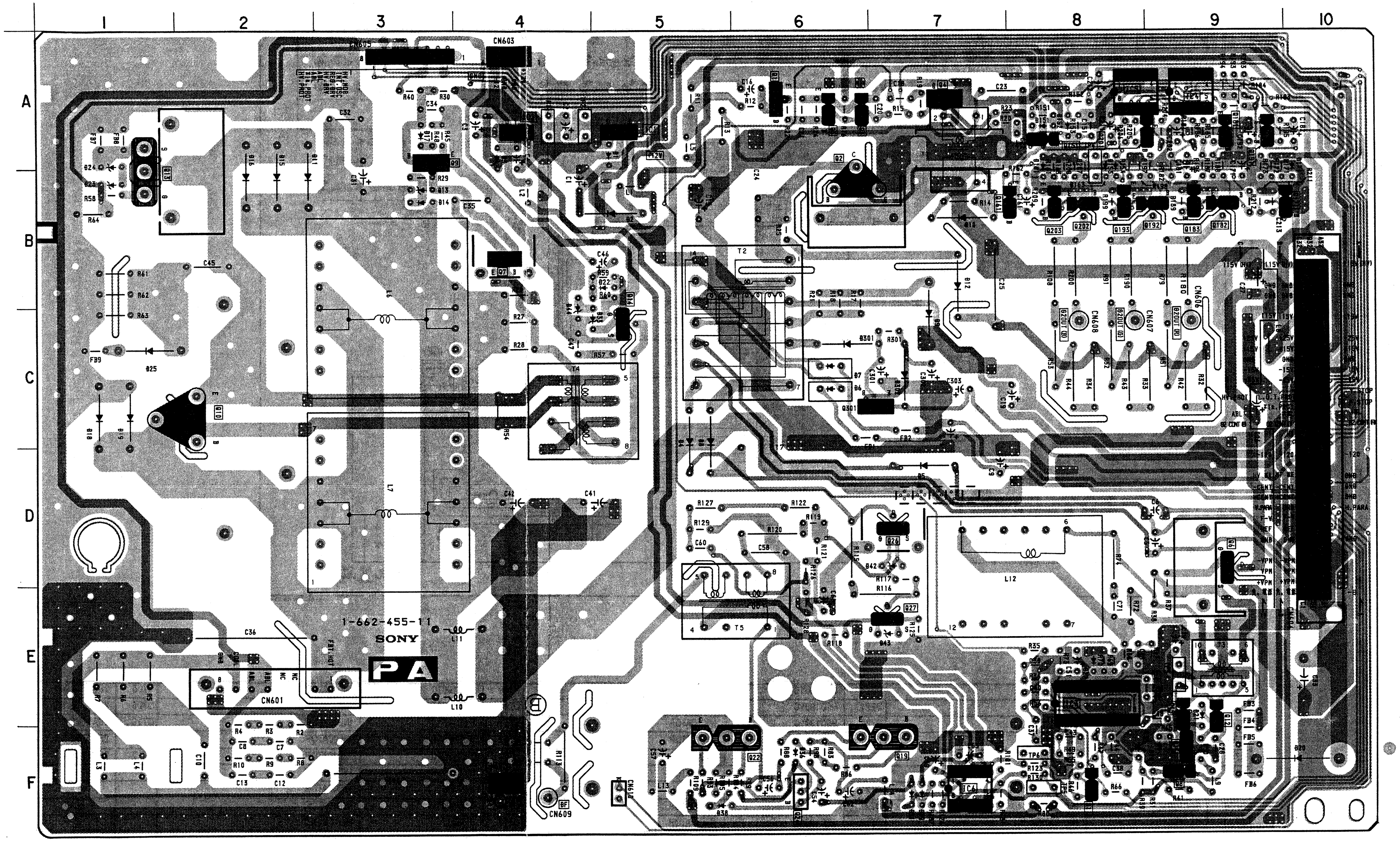
DIODE		TRANSISTOR	
D1	A-5	Q1	A-6
D2	B-5	Q2	B-6
D3	A-4	Q3	A-6
D4	C-5	Q4	A-7
D5	D-7	Q5	A-6
D6	C-6	Q6	D-9
D7	C-6	Q7	B-4
D8	C-5	Q8	F-9
D9	C-7	Q9	A-3
D10	B-7	Q10	C-2
D11	B-2	Q11	F-8
D12	B-7	Q12	E-9
D13	B-3	Q13	A-1
D14	B-3	Q14	C-5
D15	B-2	Q15	E-9
D16	B-2	Q16	F-9
D17	A-3	Q19	F-7
D18	C-1	Q22	F-6
D19	C-1	Q24	F-6
D20	F-10	Q26	D-7
D21	F-9	Q27	E-7
D22	B-5	Q151	A-8
D23	B-1	Q161	B-7
D24	A-1	Q171	B-10
D25	C-1	Q181	A-9
D26	F-9	Q182	B-9
D27	E-8	Q183	B-9
D31	F-7	Q191	A-9
D33	C-5	Q192	B-9
D36	F-6	Q193	B-8
D38	F-5	Q201	A-8
D39	F-7	Q202	B-8
D42	D-7	Q203	B-8
D43	E-7	Q301	C-6
D44	B-4	**TEST POINT**	
D151	A-8	TP1	A-4
D152	A-8	TP2	A-4
D153	A-8	TP3	E-9
D161	A-8	TP4	A-8
D163	A-8	TP5	F-8
D171	A-10	TP6	F-8
D301	C-6		
D302	C-7		

IC	
IC1	A-5
IC2	A-4
IC3	E-8
IC4	A-9
IC5	A-8
IC6	F-7

Schematic Diagram

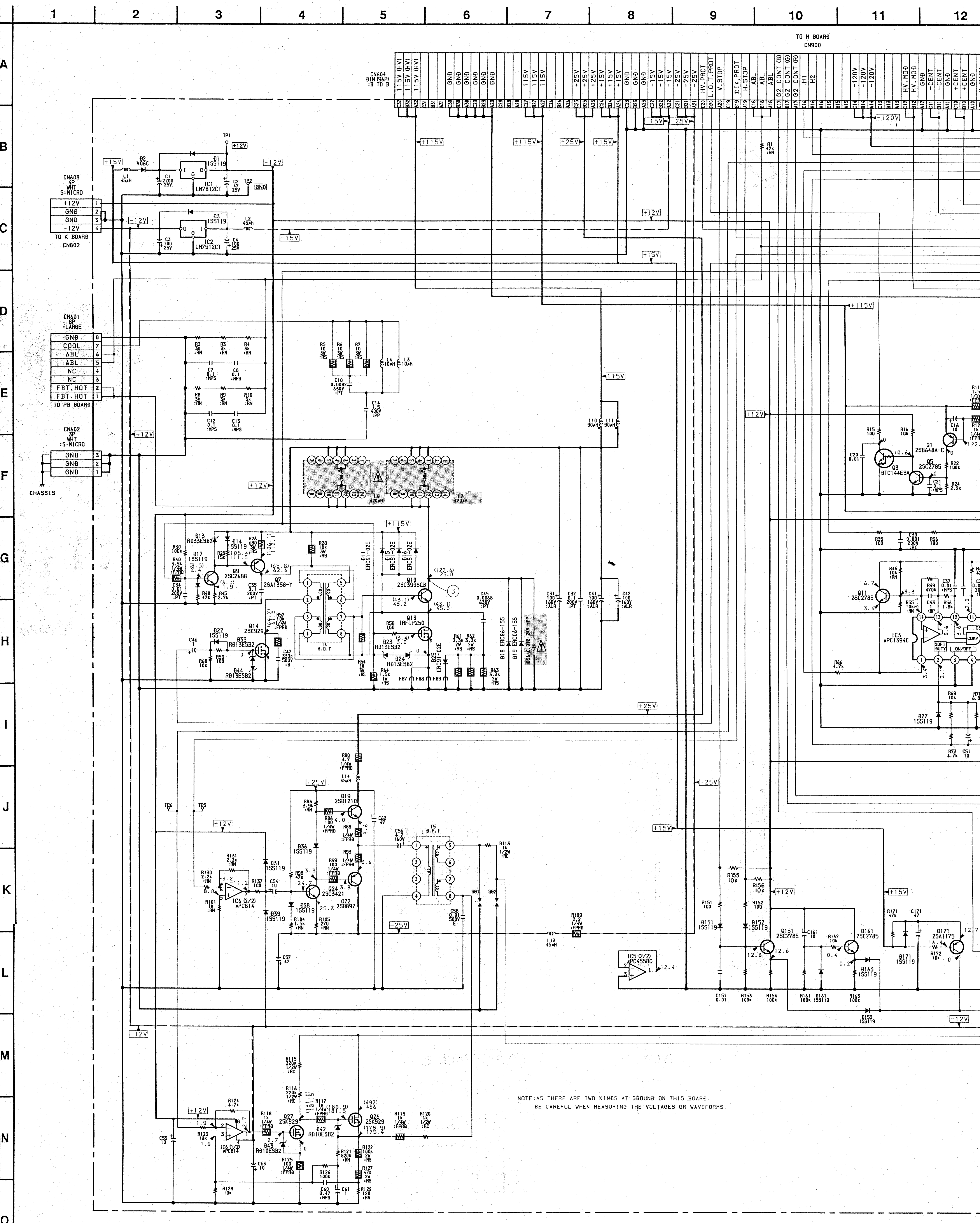
← H board

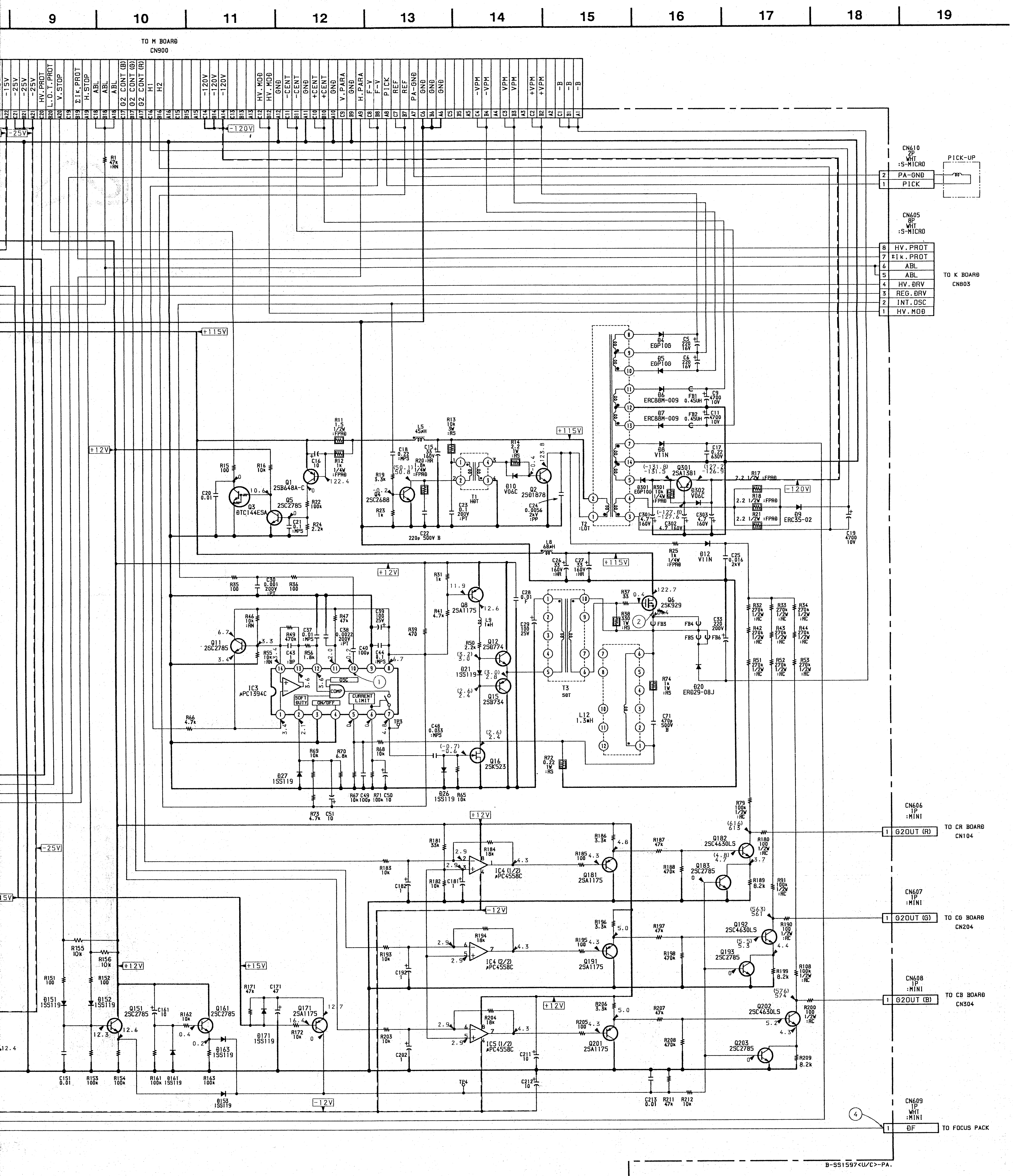
— PA BOARD — <Conductor side>


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
CN603
CN601
CN609
CN606
CN607
CN608
T2
T4
T5
L6
L7
L12
1-662-455-11
SONY
PA

- ▨ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side.

- **PA (HV REG, G2 CONTROL, DF (H/V) BUFFER) DIAGRAM**
- Refer to page 4-170 for Waveforms
- Refer to page 4-170 for Function of Semiconductor


TO M BOARD
CN900
CN604
8IN (96P)
:B TO B
115V (HV)
GND
115V
+25V
+15V
-15V
-25V
HV.PROT
L.O.T.PROT
V.STOP
ΣIk.PROT
H.STOP
ABL
G2 CONT (B)
G2 CONT (G)
G2 CONT (R)
H1
H2
-120V
HV.MOD
-CENT
+CENT
CN603
4P
WHT
S:MICRO
+12V
GND
-12V
TO K BOARD
CN802
CN601
8P
:LARGE
COOL
NC
FBT.HOT
TO PB BOARD
CN602
3P
WHT
:S-MICRO
CHASSIS
IC1
LM7812CT
IC2
LM7912CT
T4
H.O.T
T5
D.F.T
L6
420μH
L7
420μH
IC3
μPC1394C
IC5 (2/2)
μPC4558C
IC6 (1/2)
μPC814
IC6 (2/2)
μPC814
Q10
2SC3998CB
Q13
IRF1P250
Q14
2SK929
Q26
2SK929
Q27
2SK929
NOTE:AS THERE ARE TWO KINDS AT GROUND ON THIS BOARD.
BE CAREFUL WHEN MEASURING THE VOLTAGES OR WAVEFORMS.


TO M BOARD
CN900
CN610
2P
WHT
:S-MICRO
PICK-UP
PA-GND
PICK
CN605
8P
WHT
:S-MICRO
HV.PROT
ΣIk.PROT
ABL
ABL
HV.DRV
REG.DRV
INT.OSC
HV.MOD
TO K BOARD
CN803
CN606
1P
:MINI
G2OUT (R)
TO CR BOARD
CN104
CN607
1P
:MINI
G2OUT (G)
TO CG BOARD
CN204
CN608
1P
:MINI
G2OUT (B)
TO CB BOARD
CN304
CN609
1P
WHT
:MINI
DF
TO FOCUS PACK
IC3
μPC1394C
IC4 (1/2)
μPC4558C
IC4 (2/2)
μPC4558C
IC5 (1/2)
μPC4558C
T1
HDT
T2
:LOT
T3
SDT
B-SS1597<U/C>-PA.

ON THIS BOARD.
AGES OR WAVEFORMS.

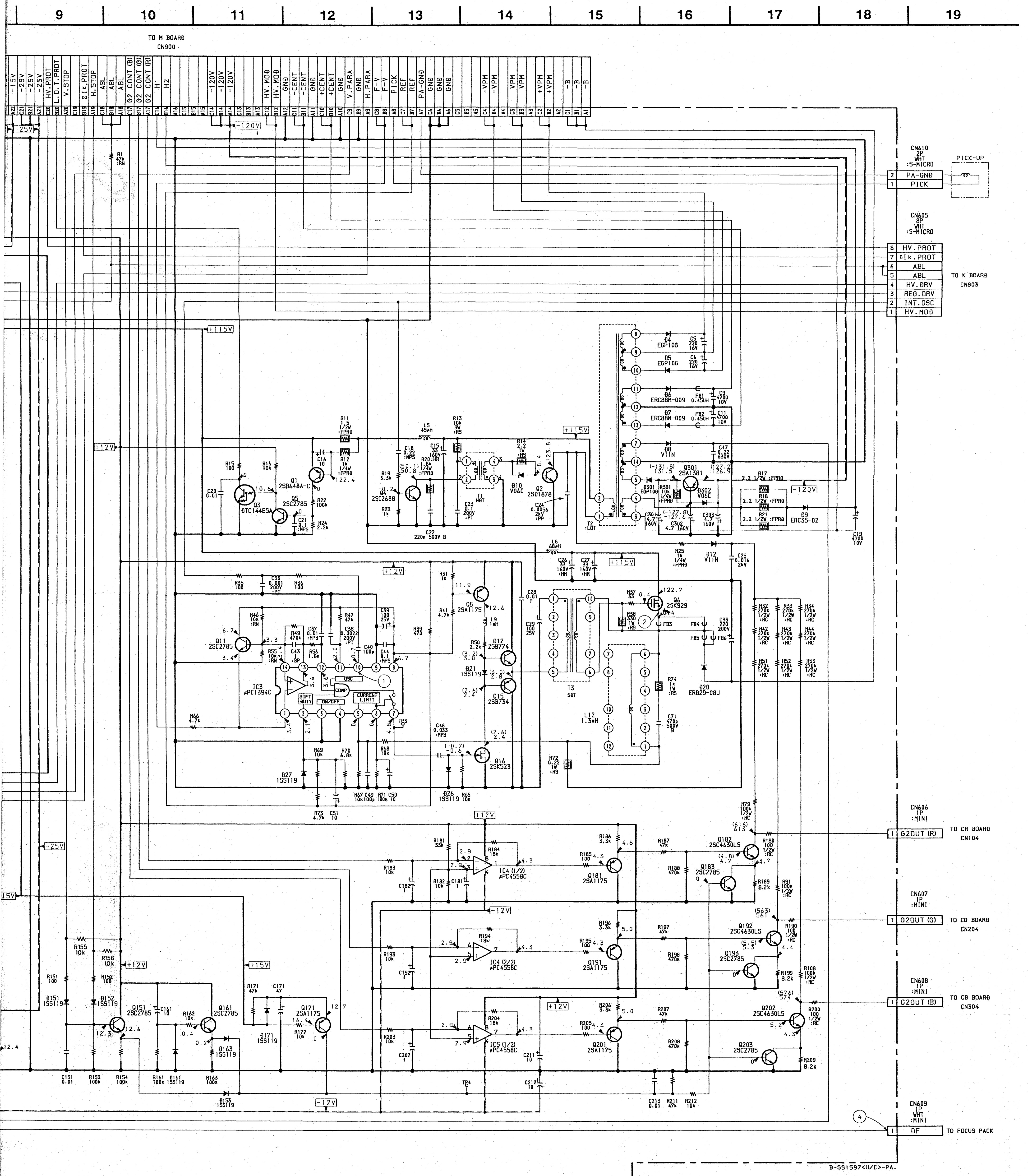
PA(HV REG, G2 CONTROL, DF (H/V) BUFFER)

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Schematic Diagram

PB board ➡


9
10
11
12
13
14
15
16
17
18
19
TO M BOARD
CN900
-15V
-25V
-25V
-25V
HV.PROT
L.O.T.PROT
V.STOP
ΣIk.PROT
H.STOP
ABL
ABL
ABL
G2 CONT (B)
G2 CONT (G)
G2 CONT (R)
H1
H2
-120V
-120V
-120V
HV.MOĐ
HV.MOĐ
GNĐ
-CENT
-CENT
GNĐ
+CENT
+CENT
GNĐ
V.PARA
GNĐ
H.PARA
F-V
F-V
PICK
REF
REF
PA-GNĐ
GNĐ
GNĐ
GNĐ
-VPM
-VPM
VPM
VPM
+VPM
+VPM
-B
-B
-B
CN610
2P
WHT
:S-MICRO
PA-GNĐ
PICK
PICK-UP
CN605
8P
WHT
:S-MICRO
HV.PROT
ΣIk.PROT
ABL
ABL
HV.ĐRV
REG.ĐRV
INT.OSC
HV.MOĐ
TO K BOARD
CN803
+115V
+12V
-25V
15V
-12V
-120V
IC3
μPC1394C
SOFT DUTY
ON/OFF
COMP
OSC
CURRENT LIMIT
Q1 2SB648A-C
Q2 2SD1878
Q3 DTC144ESA
Q4 2SC2688
Q5 2SC2785
Q6 2SK929
Q8 2SA1175
Q11 2SC2785
Q12 2SD774
Q15 2SB734
Q16 2SK523
Q301 2SA1381
Q302 V06C
T1 HDT
T2 :LOT
T3 SDT
L12 1.3mH
IC4 (1/2) μPC4558C
IC4 (2/2) μPC4558C
IC5 (1/2) μPC4558C
Q151 2SC2785
Q161 2SC2785
Q171 2SA1175
Q181 2SA1175
Q182 2SC4630LS
Q183 2SC2785
Q191 2SA1175
Q192 2SC4630LS
Q193 2SC2785
Q201 2SA1175
Q202 2SC4630LS
Q203 2SC2785
CN606
1P
:MINI
G2OUT (R)
TO CR BOARD
CN104
CN607
1P
:MINI
G2OUT (G)
TO CG BOARD
CN204
CN608
1P
:MINI
G2OUT (B)
TO CB BOARD
CN304
CN609
1P
WHT
:MINI
ĐF
TO FOCUS PACK
B-SS1597<U/C>-PA.

ON THIS BOARD.
AGES OR WAVEFORMS.

PA(HV REG, G2 CONTROL, ĐF (H/V) BUFFER)

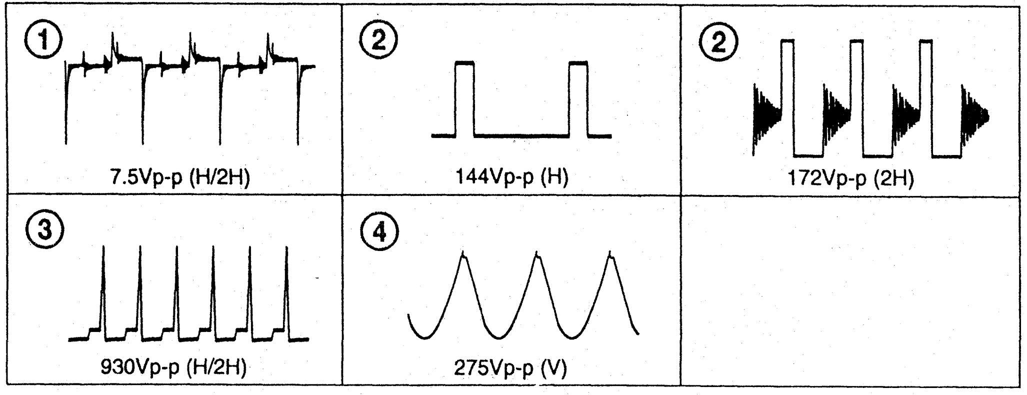
Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Schematic Diagram

PB board ➡

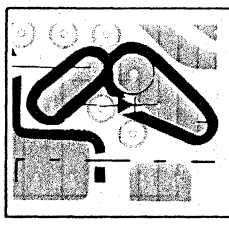
PA Board Waveforms



PA BOARD

Function of Semiconductor

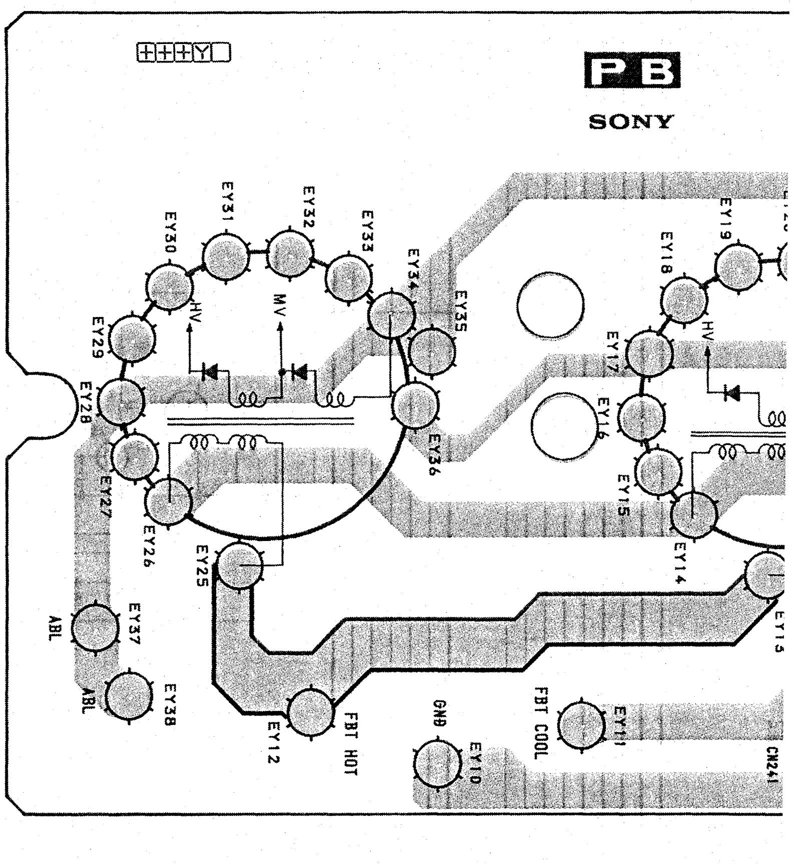
D1	1SS119-25	IC1 PROTECTOR	IC1	TA7812CT	+12V REG
D2	V06C	+12V HOLD	IC2	LM7912CT	–12V REG
D3	1SS119-25	IC2 PROTECTOR	IC3	UPC1394C	PIN MOD REG CONTROL
D4	EGP10GPKG23	+ VPM RECT	IC4	UPC4558C	
D5	EGP10GPKG23	– VPM RECT	IC5	UPC4558C	
D6	ERC88M-009	+ CENT RECT	IC6	UPC814C	
D7	ERC88M-009	– CENT RECT			
D8	V11N	DF (V) POW RECT	Q1	2SB648A-C	LOT PROT DET
D9	ERC35-02	HEATER RECT	Q2	2SD1878-CA	LOT CONV
D10	V06C	SPEED UP	Q3	DTC144ESA	LOT PROT OUT
D11	ERC91-02E	HV REG SW1	Q4	2SC2688-LK	LOT CONV DRIVE
D12	V11N	G2 RECT	Q5	2SC2785-HFE	LOT PROT BUFF
D13	RD33ESB2	CLAMP	Q6	2SK929	PIN MOD REG
D14	1SS119-25	BIAS	Q7	2SA1358-Y	HV CONV DRIVE CONTROL 2
D15	ERC91-02E	HV REG SW2	Q8	2SA1175-HFE	POWER OFF PROT
D16	ERC91-02E	HV REG SW3	Q9	2SC2688-LK	HV CONV DRIVE CONTROL 1
D17	1SS119-25	Q9 PROTECTOR	Q10	2SC3998-CB	HV CONV
D18	ERC06-15SA	DUMPER	Q11	2SC2785-HFE	POWER ON BIAS
D19	ERC06-15SA	DUMPER	Q12	2SD774-34	PIN MOD DRIVE 1
D20	ERD29-08J	PIN MOD RECT	Q13	IRFIP250	HV REG
D21	1SS119-25	PIN MOD REG DRIVE BIAS	Q14	2SK929	HV CONV DRIVE
D22	1SS119-25	SPEED UP	Q15	2SB734-34	PIN MOD DRIVE 2
D23	RD13ESB2	Q13 PROTECTOR	Q16	2SK523-M1	PIN MOD PRE-DRIVE
D24	RD13ESB2	Q13 PROTECTOR	Q19	2SD1210 (LK)	DF (H) DRIVE 1
D25	ERC91-02E	HV REG SW 4	Q22	2SB897 (LK)	DF (H) DRIVE 2
D26	1SS119-25	CLAMP	Q24	2SC3421-Y	DF (H) DRIVE CONTROL
D27	1SS119-25	IC3 PROTECTOR	Q26	2SK929	DF (V) DRIVE
D31	1SS119-25	IC6 PROTECTOR	Q27	2SK929	DF (V) DRIVE CONTROL
D33	RD13ESB2	Q14 PROTECTOR	Q151	2SC2785-HFE	G2 STOP CONTROL (H/V STOP)
D36	1SS119-25	Q19 BIAS	Q161	2SC2785-HFE	G2 STOP CONTROL (POWER ON)
D38	1SS119-25	Q24 PROTECTOR	Q171	2SA1175-HFE	G2 STOP CONTROL (POWER OFF)
D39	1SS119-25	IC6 PROTECTOR	Q181	2SA1175-HFE	G2 CONTROL BUFF (R) 2
D42	RD10ESB2	Q26 PROTECTOR	Q182	2SC4630LS	G2 OUT (R)
D43	RD10ESB2	Q27 PROTECTOR	Q183	2SC2785-HFE	G2 STOP (R)
D44	RD13ESB2	Q14 PROTECTOR	Q191	2SA1175-HFE	G2 CONTROL BUFF (G) 2
D151	1SS119-25	V.STOP SW	Q192	2SC4630LS	G2 OUT (G)
D152	1SS119-25	H.STOP SW	Q193	2SC2785-HFE	G2 STOP (G)
D153	1SS119-25	G2 STOP CONTROL SW (H/V STOP)	Q201	2SA1175-HFE	G2 CONTROL BUFF (B) 2
D161	1SS119-25	DISCHARGE	Q202	2SC4630LS	G2 OUT (B)
D163	1SS119-25	G2 STOP CONTROL SW (POWER-ON)	Q203	2SC2785-HFE	G2 STOP (B)
D171	1SS119-25	HOLD SW	Q301	2SA1381-E	–120V REG
D301	EGP10GPKG23	–120V RECT			
D302	V06C	Q301 PROTECTOR			



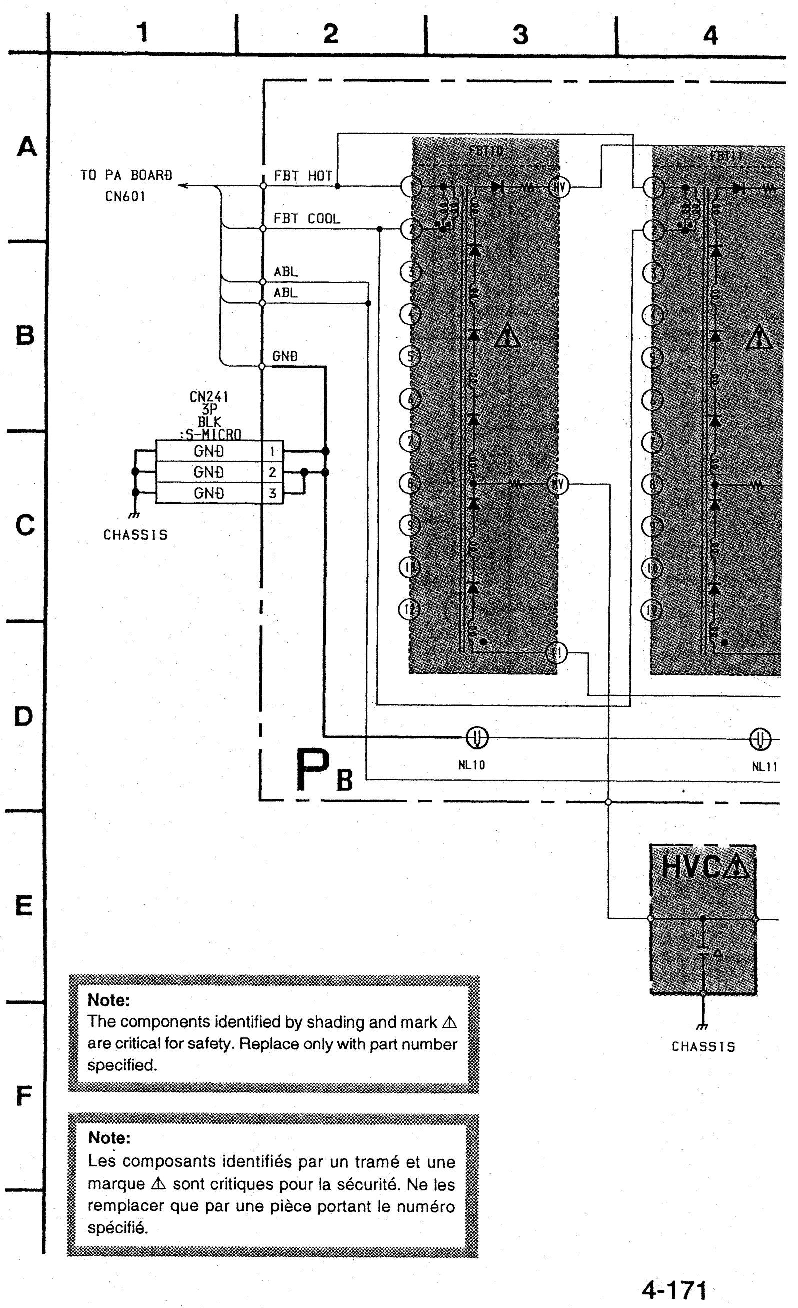
NOTE:
The circuit
600 Vp-p. C
inspection o

PB (F.B.T) BOARD

— PB BOARD — <Conductor side>


PB
SONY
EY28
EY29
EY30
EY31
EY32
EY33
EY34
EY35
EY36
EY27
EY26
EY25
EY37
EY38
ABL
ABL
HV
MV
EY12
FBT HOT
GND
EY10
FBT COOL
EY11
EY14
EY15
EY16
EY17
EY18
EY19
HV
CN241

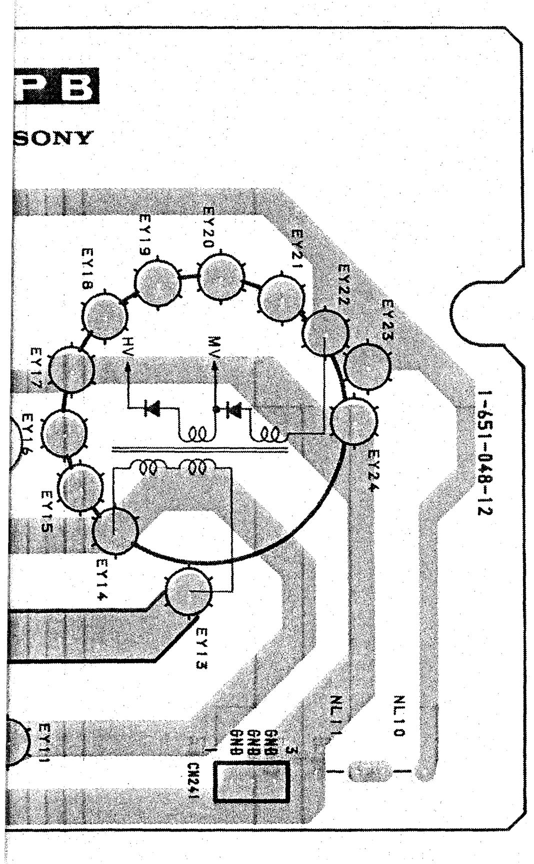
• PB (F.B.T) DIAGRAM

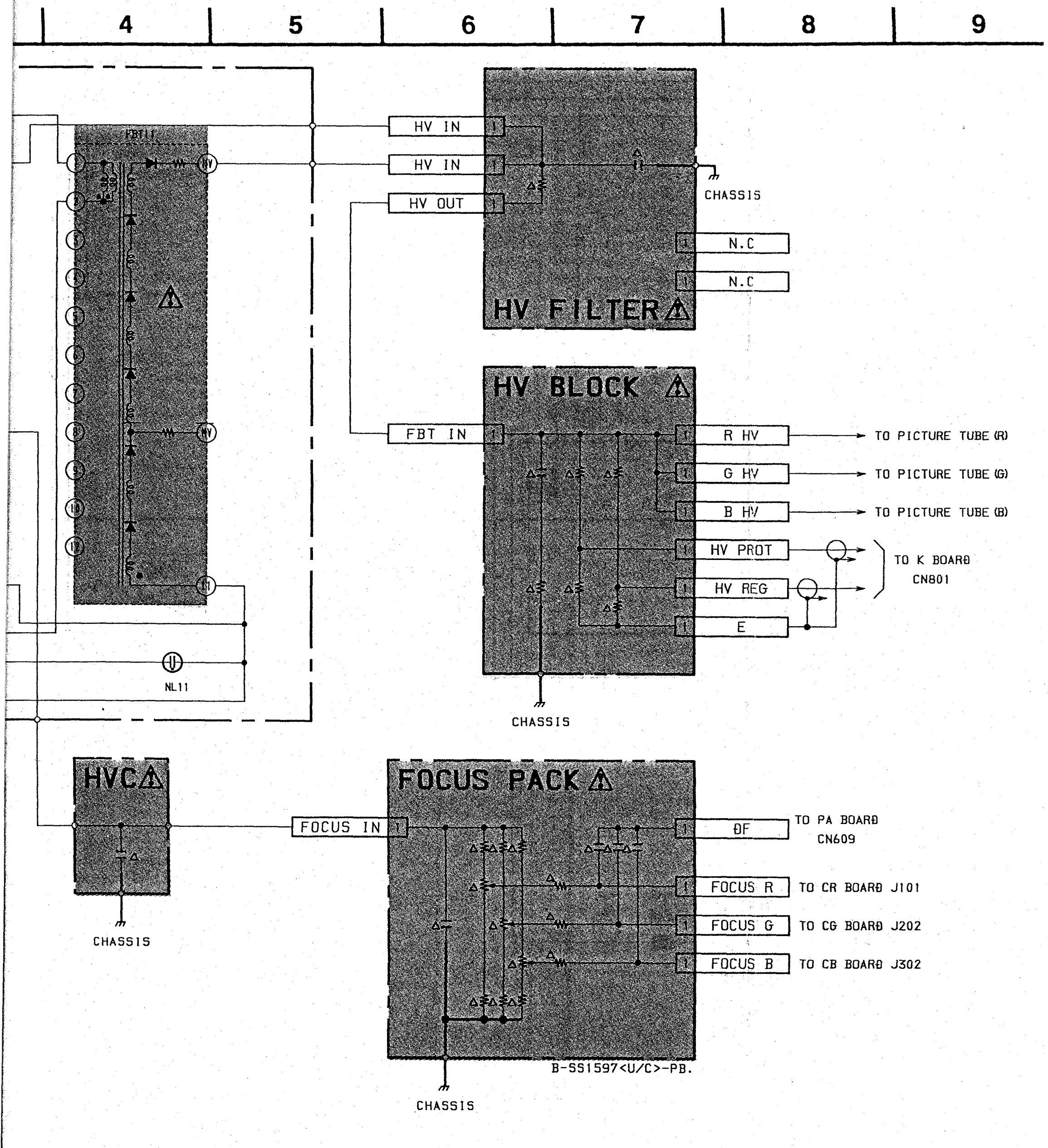

1
2
3
4
A
B
C
D
E
F
TO PA BOARD
CN601
FBT HOT
FBT COOL
ABL
ABL
GND
CN241
3P
BLK
:S-MICRO
GND 1
GND 2
GND 3
CHASSIS
FBT10
FBT11
HV
NL10
NL11
PB
HVC
CHASSIS

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

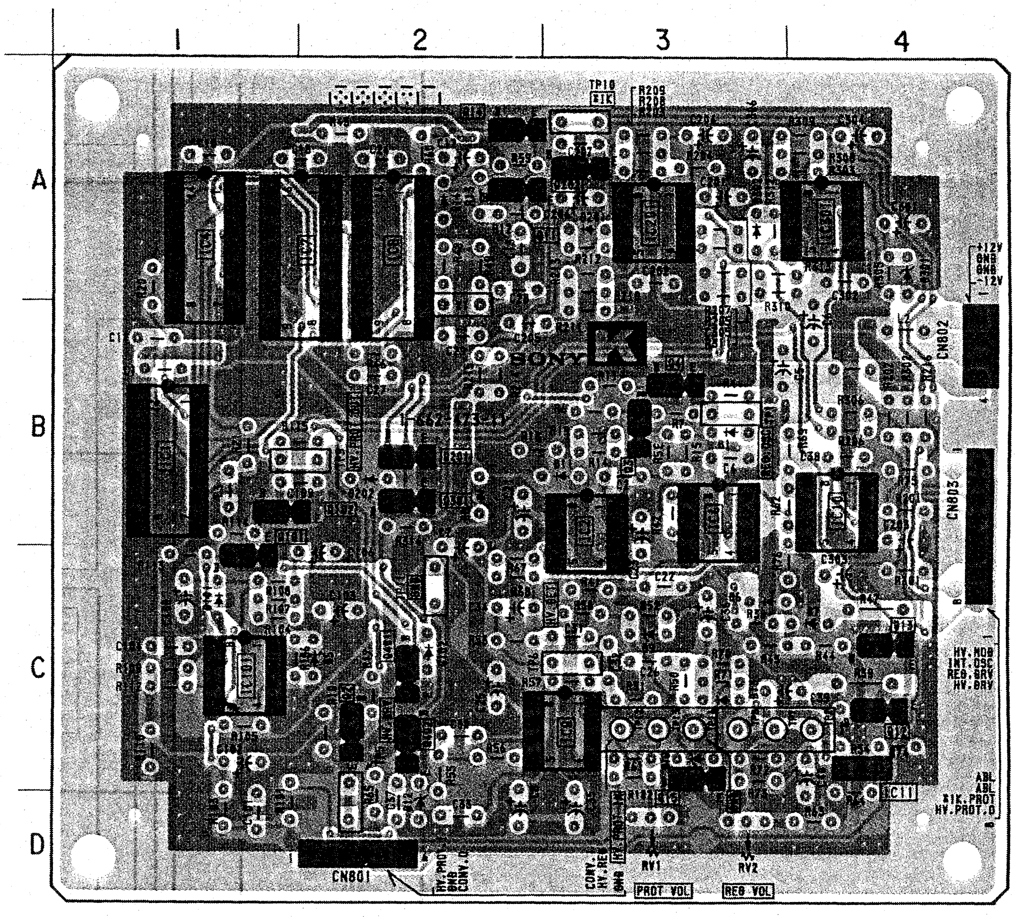
NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.


PB
SONY
EY11
EY13
EY14
EY15
EY16
EY17
EY18
EY19
EY20
EY21
EY22
EY23
EY24
HV
MV
1-651-048-12
NL10
NL11
CN241
GND
GND
GND
3


4
5
6
7
8
9
FBT11
NL11
HV IN
HV IN
HV OUT
CHASSIS
N.C
N.C
HV FILTER
HV BLOCK
FBT IN
R HV
G HV
B HV
HV PROT
HV REG
E
TO PICTURE TUBE (R)
TO PICTURE TUBE (G)
TO PICTURE TUBE (B)
TO K BOARD CN801
CHASSIS
HVC
CHASSIS
FOCUS IN
FOCUS PACK
DF
TO PA BOARD CN609
FOCUS R
TO CR BOARD J101
FOCUS G
TO CG BOARD J202
FOCUS B
TO CB BOARD J302
B-SS1597<U/C>-PB.
CHASSIS

K (HV REG. CONTROL, OSC DEV, HV REG. OUT) BOARD

— K BOARD — <Conductor side>


1
2
3
4
A
B
C
D
TP10
CN802
CN803
CN801
RV1
RV2
PROT VOL
REG VOL
+12V
GND
GND
-12V
HV.MOD
INT.OSC
REG.DRV
HV.DRV
ABL
ABL
EXT.PROT
HV.PROT.O
IC11

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

K BOARD
Semiconductor Location

DIODE		TRANSISTOR	
D1	B-3	Q2	C-2
D5	C-2	Q3	B-3
D6	C-3	Q4	B-3
D7	C-4	Q11	A-2
D8	B-2	Q12	C-4
D9	C-3	Q13	C-4
D10	C-3	Q14	A-2
D11	B-3	Q15	C-3
D12	D-2	Q101	C-1
D13	C-3	Q102	B-1
D14	A-2	Q201	B-2
D101	C-1	Q202	A-3
D102	C-2	Q301	B-2
D201	A-3	Q401	C-2
D202	B-2	Q402	C-2
D301	A-4		
D302	A-3	VARIABLE RESISTOR	
IC		RV1	D-3
IC1	B-1	RV2	D-3
IC2	B-3		
IC4	A-1	TEST POINT	
IC6	B-3		
IC7	A-2	TP1	B-3
IC8	A-2	TP5	C-2
IC9	C-3	TP6	C-3
IC10	B-4	TP9	B-1
IC11	C-4	TP10	A-3
IC101	C-1	TP11	C-2
IC201	A-3		
IC301	A-4		

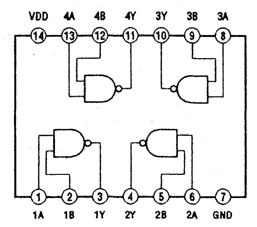
K BOARD

Function of Semiconductor

D1	1SS119-25	PROT	IC10	UPC4558C	HV DET AMP, HV MOD BUFFER
D5	RD5.1ESB2	HV PROT REF	IC11	TL431CLP-Z	HV REG REF
D6	1SS119-25	PROT	IC101	LM393P	HV PROT COMP, HOLD
D7	1SS119-25	PROT	IC201	LM393P	IK PROT 1
D8	1SS119-25	+12V HOLD	IC301	LM393P	IK PROT 2
D9	RD3.3ESB2	PROT			
D10	RD13ESB2	PROT	Q2	2SA1175-HFE	HV DRV OUT
D11	1SS119-25	–12V HOLD	Q3	2SC2785-HFE	REG OSC BUFFER
D12	RD13ESB2	PROT	Q4	2SA1175-HFE	REG OSC OUT
D13	1SS119-25	PROT	Q11	2SC2785-HFE	SOFT START
D14	1SS119-25	PROT	Q12	2SD774-34	HV REG OUT 1
D101	1SS119-25	HV PROT HOLD SW	Q13	2SB734-34	HV REG OUT 2
D102	1SS119-25	HV PROT DRV STOP SW	Q14	2SA1175-HFE	INT OSC OUT
D201	1SS119-25	IK PROT HOLD SW 1	Q15	2SC2785-HFE	SOFT START
D202	1SS119-25	IK PROT DRV STOP SW	Q101	DTC144ESA	HV PROT SW
D301	RD5.1ESB2	IK PROT 2 REF	Q102	DTC144ESA	HV PROT OUT
D302	1SS119-25	IK PROT HOLD SW 2	Q201	DTC144ESA	IK PROT SW 1
			Q202	DTC144ESA	IK PROT OUT 1
IC1	MC14001BCP	OSC DEV4	Q301	DTC144ESA	IK PROT SW 2
IC2	TL082CP	HV LIMIT, REG CONT-2	Q401	DTC144ESA	HV DRV STOP 1
IC4	UPD4011BCP	OSC DEV3	Q402	DTC144ESA	HV DRV STOP 2
IC6	LM393P	HV REG COMP			
IC7	MC14040BCP	OSC DEV2			
IC8	MC14572UBCP	OSC DEV1			
IC9	TL082CP	HV REG CONT, HV DET BUFFER			

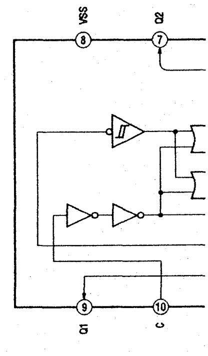
K Board IC Block Diagrams

MC14011BCP(IC1, 4)

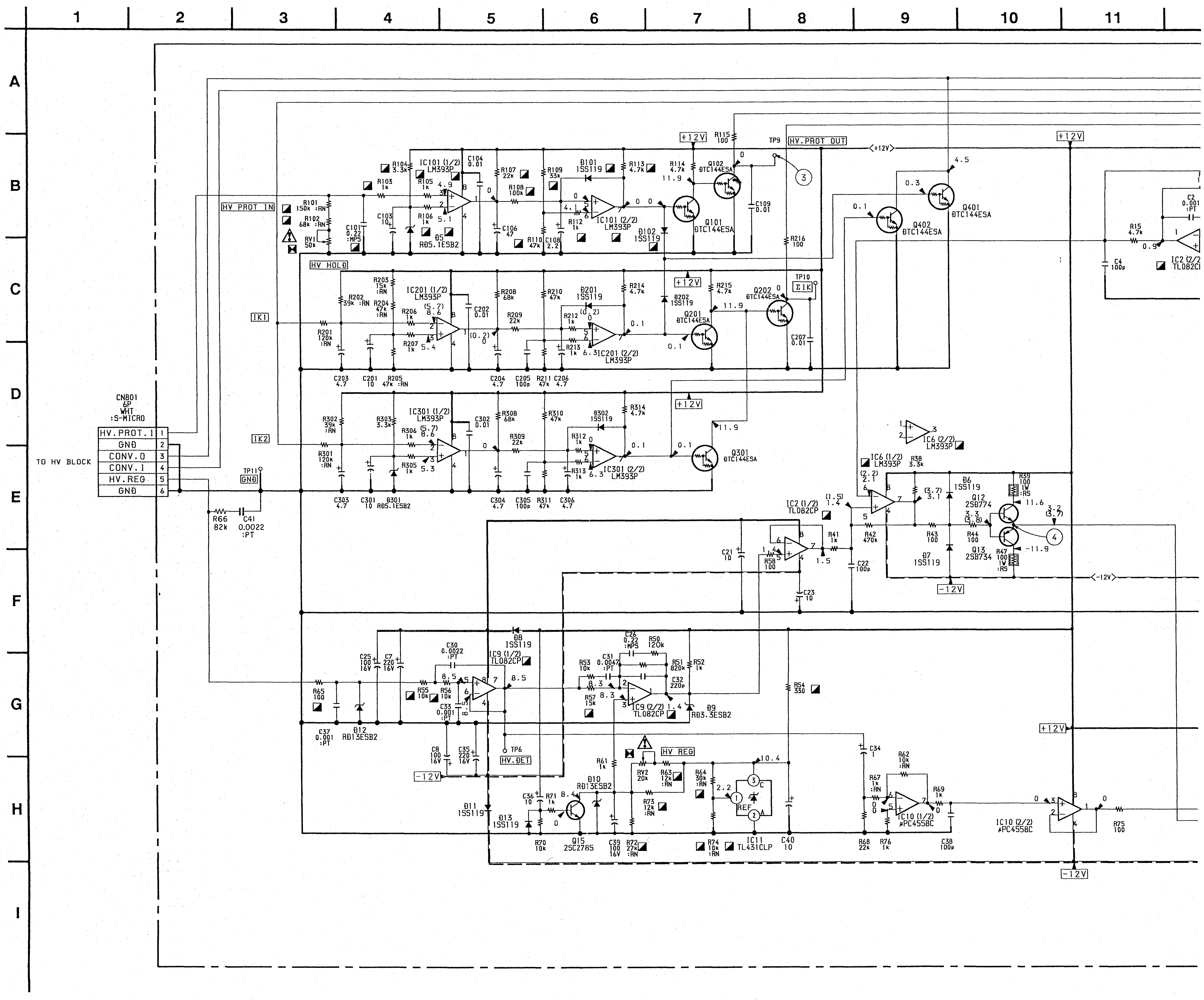


VDD
4A
4B
4Y
3Y
3B
3A
1A
1B
1Y
2Y
2B
2A
GND

MC14040BCP(IC7



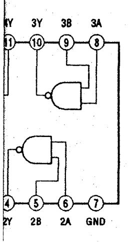
• K (HV REG. CONTROL, OSC DEV, HV REG. OUT) DIAGRAM



1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
CN801 6P WHT :S-MICRO
HV.PROT.I
GND
CONV.0
CONV.1
HV.REG
GND
TO HV BLOCK
TP11 GND
R66 82k
C41 0.0022 :PT
HV PROT IN
HV HOLD
IK1
IK2
IC101 (1/2) LM393P
IC101 (2/2) LM393P
IC201 (1/2) LM393P
IC201 (2/2) LM393P
IC301 (1/2) LM393P
IC301 (2/2) LM393P
Q101 DTC144ESA
Q102 DTC144ESA
Q201 DTC144ESA
Q202 DTC144ESA
Q301 DTC144ESA
Q401 DTC144ESA
Q402 DTC144ESA
+12V
TP9
HV.PROT OUT
TP10 ΣIK
RV1 50k
D5 RD5.1ESB2
D301 RD5.1ESB2
D101 1SS119
D102 1SS119
D201 1SS119
D202 1SS119
D302 1SS119
IC2 (1/2) TL082CP
IC2 (2/2) TL082CP
IC6 (1/2) LM393P
IC6 (2/2) LM393P
D6 1SS119
D7 1SS119
Q12 2SD774
Q13 2SB734
-12V
<-12V>
<+12V>
IC9 (1/2) TL082CP
IC9 (2/2) TL082CP
D8 1SS119
D9 RD3.3ESB2
D12 RD13ESB2
TP6 HV.DET
HV REG
D10 RD13ESB2
D11 1SS119
D13 1SS119
Q15 2SC2785
IC11 TL431CLP
REF
IC10 (1/2) μPC4558C
IC10 (2/2) μPC4558C
R75 100
R15 4.7k
C4 100p
C2 0.001 :PT

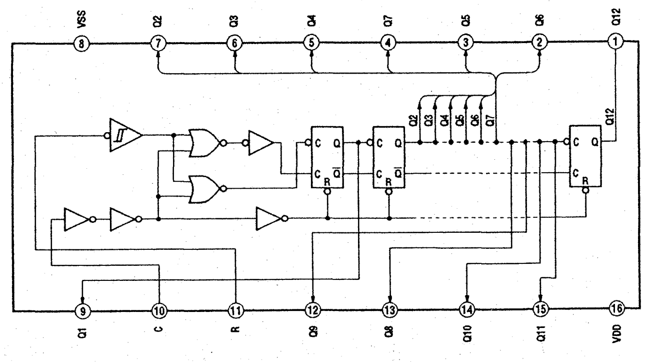
Block Diagrams

CP(IC1, 4)



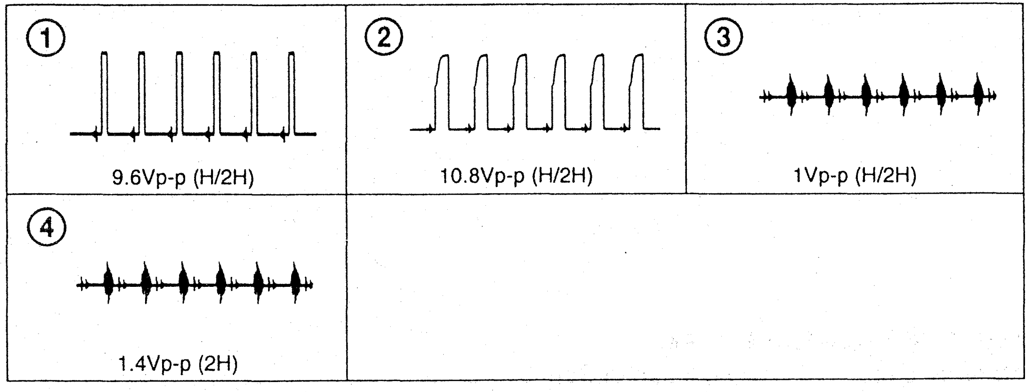
3Y
3B
3A
2Y
2B
2A
GND

MC14040BCP(IC7)



VSS
Q2
Q3
Q4
Q7
Q5
Q6
Q12
Q1
C
R
Q9
Q8
Q10
Q11
VDD

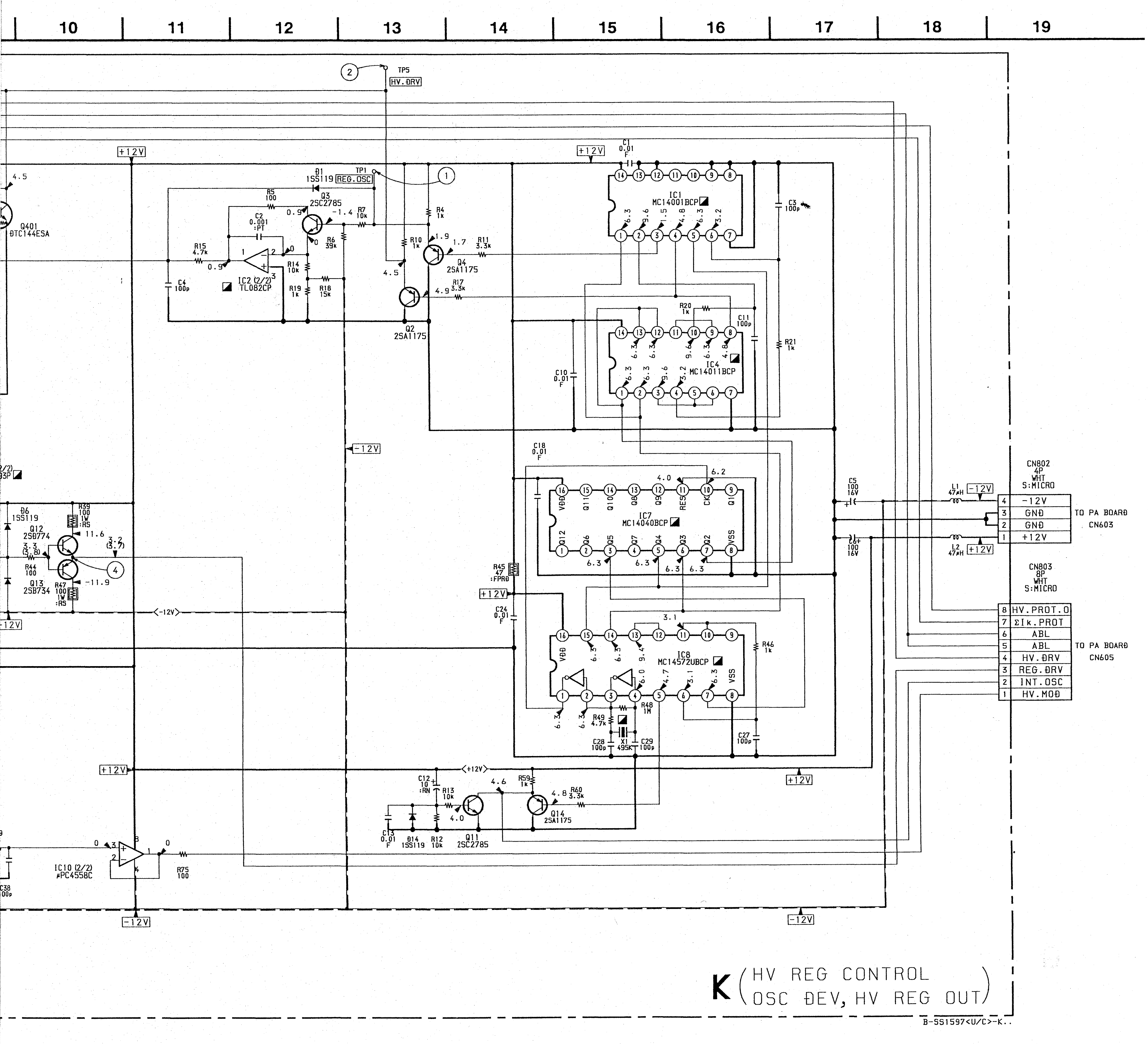
K **Board** Waveforms



Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

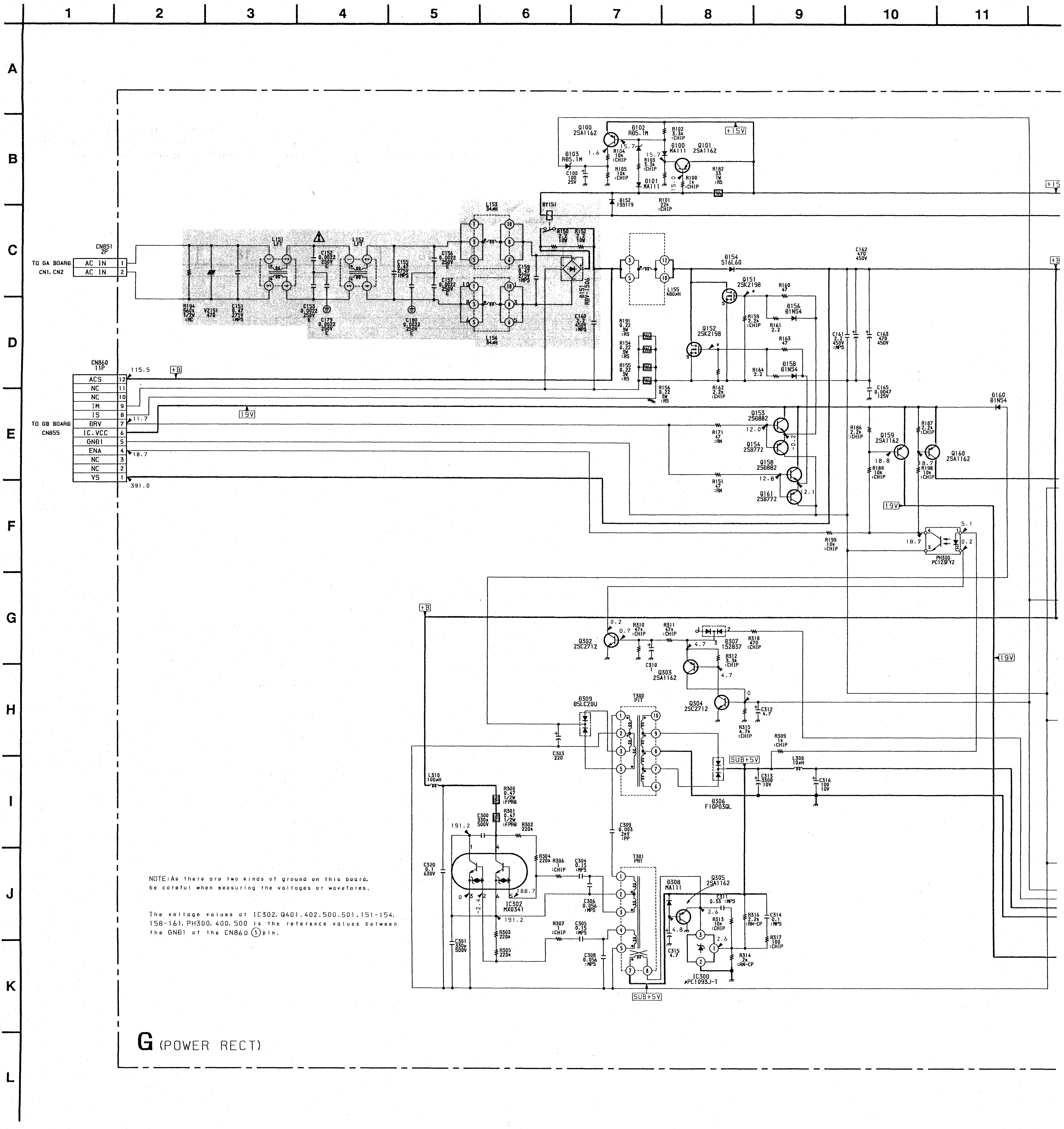
- The components identified by ⊠ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used. (Refer to page 3-13.)



10
11
12
13
14
15
16
17
18
19
TP5
HV.DRV
TP1
REG.OSC
D1
1SS119
Q3
2SC2785
Q401
DTC144ESA
IC2 (2/2)
TL082CP
Q2
2SA1175
Q4
2SA1175
IC1
MC14001BCP
IC4
MC14011BCP
IC7
MC14040BCP
IC8
MC14572UBCP
D6
1SS119
Q12
2SD774
Q13
2SB734
Q11
2SC2785
Q14
2SA1175
D14
1SS119
IC10 (2/2)
µPC4558C
X1
495K
CN802
4P
WHT
S:MICRO
-12V
GND
GND
+12V
TO PA BOARD
CN603
CN803
8P
WHT
S:MICRO
HV.PROT.O
ΣIk.PROT
ABL
ABL
HV.DRV
REG.DRV
INT.OSC
HV.MOD
TO PA BOARD
CN605
+12V
-12V
B-SS1597<U/C>-K..

K (HV REG CONTROL
OSC DEV, HV REG OUT)

- **G (POWER RECT) DIAGRAM**
- Refer to page 4-181 for Function of Semiconductor

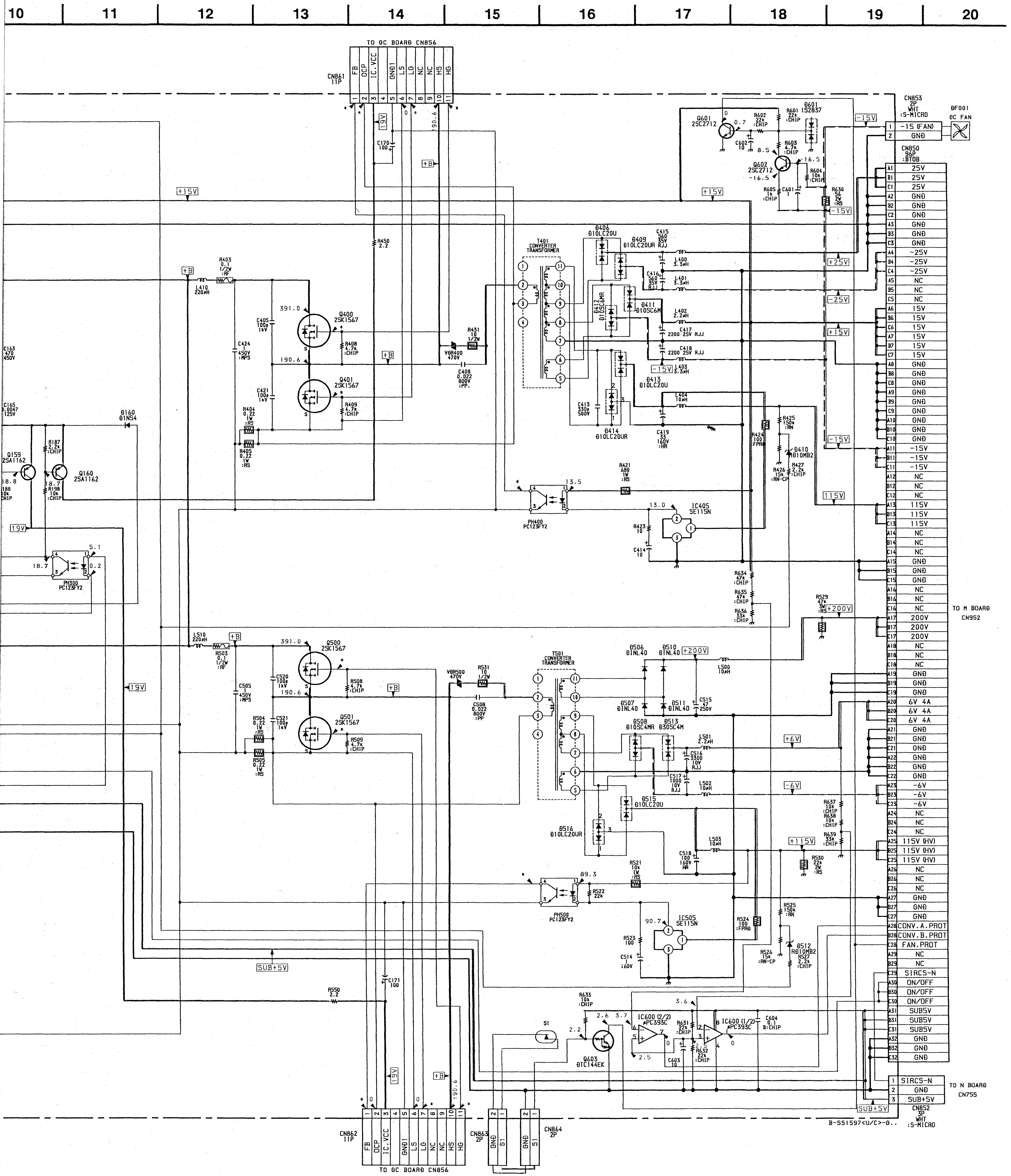

TO GA BOARD CN1, CN2
CN851 2P
AC IN
TO GB BOARD CN855
CN860 11P
ACS
NC
IM
IS
DRV
IC.VCC
GND1
ENA
VS
115.5
11.7
18.7
391.0
+B
19V
+15V
SUB+5V
L151 LFT
L152 LFT
L153 34mH
L154 34mH
L155 480µH
VZ151 470
C151 0.47 275V
C152 0.0022 250V
C153 0.0022 250V
C155 0.47 275V
C156 0.0022 250V
C157 0.0022 250V
C159 0.47 275V
C140 2.2 450V
D151 RBV-1506
RY151
R150 2.2 10W
R152 2.2 10W
Q100 2SA1162
Q101 2SA1162
Q102 RB5.1M
D152 1SS119
D154 STGL60
Q151 2SK2198
Q152 2SK2198
Q153 2SD882
Q154 2SB772
Q158 2SD882
Q161 2SB772
Q159 2SA1162
Q160 2SA1162
D160 D1NS4
C161 2.2 450V
C162 470 450V
C163 470 450V
C165 0.0047 125V
PH300 PC123FY2
Q302 2SC2712
Q303 2SA1162
Q304 2SC2712
D307 1S2837
D309 D5LC20U
T300 PIT
T301 PRT
D306 F10P03QL
L300 10µH
L310 100µH
IC302 MX0341
Q305 2SA1162
D308 MA111
IC300 μPC1093J-T
G (POWER RECT)

NOTE:As there are two kinds of ground on this board, be careful when measuring the voltages or waveforms.

The voltage values at IC302, Q401.402.500.501.151-154, 158-161, PH300, 400, 500 is the reference values between the GND1 of the CN860 ⑤ pin.

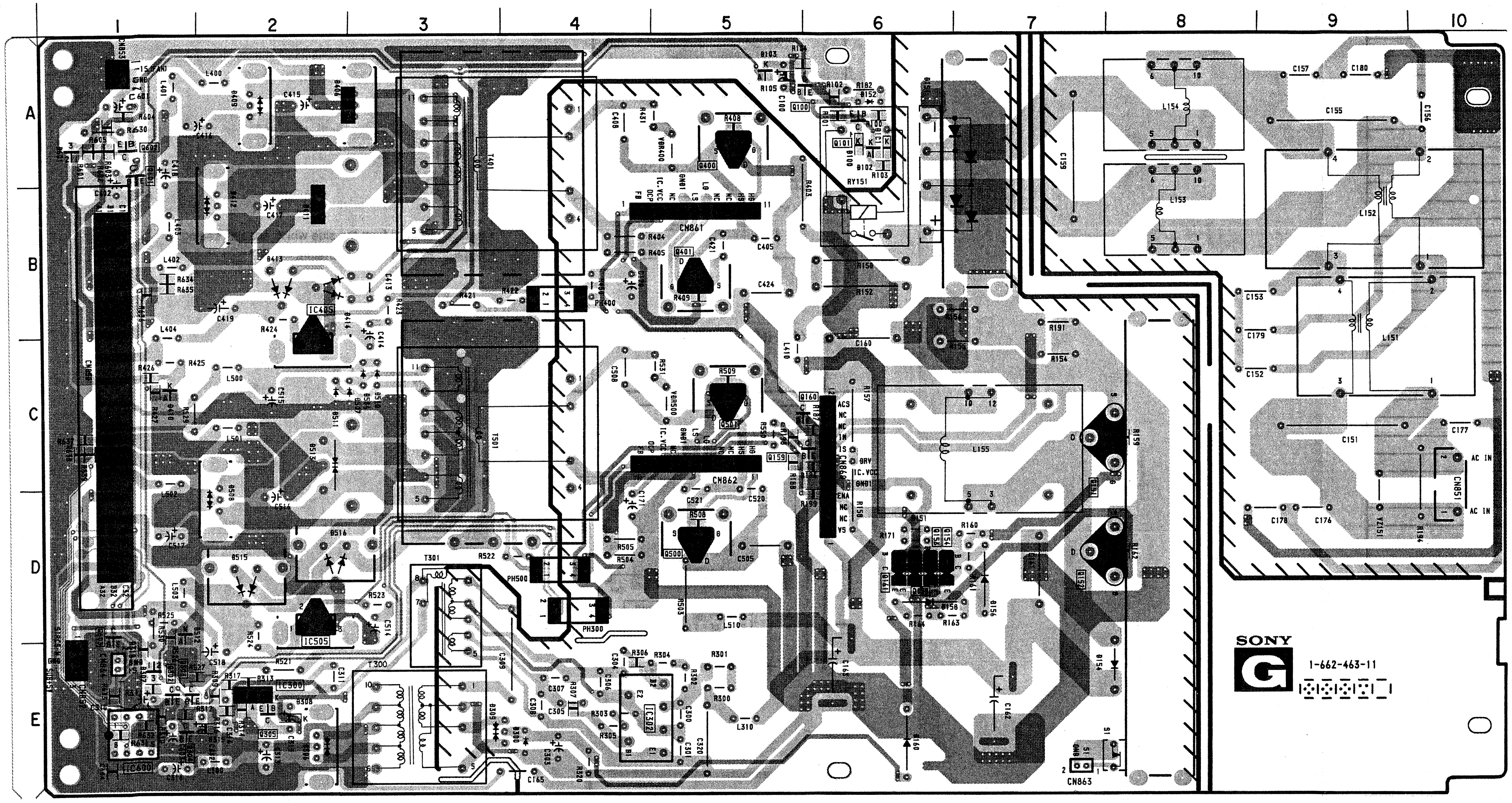
Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.


10
11
12
13
14
15
16
17
18
19
20
TO GC BOARD CN856
CN861 11P
FB
OCP
IC.VCC
GND1
LS
LG
NC
HS
HG
T401 CONVERTER TRANSFORMER
T501 CONVERTER TRANSFORMER
Q400 2SK1567
Q401 2SK1567
Q500 2SK1567
Q501 2SK1567
Q159 2SA1162
Q160 2SA1162
Q601 2SC2712
Q602 2SC2712
Q603 DTC144EK
PH300 PC123FY2
PH400 PC123FY2
PH500 PC123FY2
IC405 SE115N
IC505 SE115N
IC600 (2/2) μPC393C
IC600 (1/2) μPC393C
CN853 2P WHT :S-MICRO
-15 (FAN)
GND
BF001 DC FAN
CN850 96P :BTOB
TO M BOARD CN952
TO N BOARD CN755
CN852 3P WHT :S-MICRO
S1RCS-N
SUB+5V
CN862 11P
CN863 2P
CN864 2P
S1
B-SS1597<U/C>-G..

G (POWER RECT) BOARD

— G BOARD — <Conductor side>


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
T401
T501
T301
T300
CN861
CN862
CN863
CN851
IC405
IC505
IC600
IC302
PH300
PH400
PH500
L151
L152
L153
L154
L155
RY151
AC IN
SONY
G
1-662-463-11

- ▒ : Pattern from the side which enables seeing.
- ▓ : Pattern of the rear side.

G BOARD
Semiconductor Location

DIODE		TRANSISTOR	
D100	A-6	Q100	A-5
D101	A-6	Q101	A-6
D102	A-6	Q151	D-7
D103	A-5	Q152	D-7
D151	A-6	Q153	D-6
D152	A-6	Q154	D-6
D154	E-8	Q158	D-6
D156	D-7	Q159	C-6
D158	D-6	Q160	C-5
D160	E-6	Q161	D-6
D306	E-2	Q302	E-1
D307	E-1	Q303	E-1
D308	E-2	Q304	E-1
D309	E-3	Q305	E-2
D406	A-2	Q400	A-5
D409	A-2	Q401	B-5
D410	C-1	Q500	D-5
D411	B-2	Q501	C-5
D412	B-2	Q601	A-1
D413	B-2	Q602	A-1
D414	B-2	Q603	D-1
D506	C-3		
D507	C-2		
D508	D-2		
D510	C-3		
D511	C-2		
D512	D-1		
D513	C-2		
D515	D-2		
D516	D-2		
D601	A-1		
IC			
IC300	E-2		
IC302	E-4		
IC405	B-2		
IC505	D-2		
IC600	E-1		
PHOTO COUPLER			
PH300	D-4		
PH400	B-4		
PH500	D-4		

G BOARD

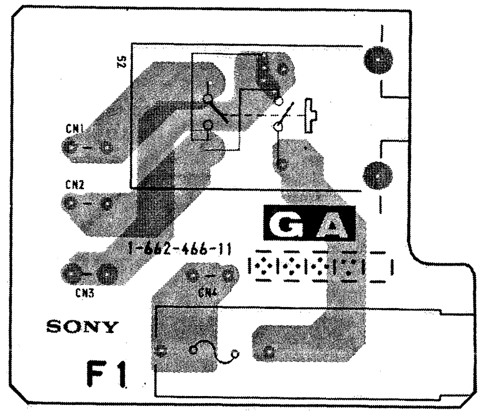
Function of Semiconductor

D100	MA111	CLAMP
D101	MA111	RY PROTECT
D102	RD5.1M-B2	RY PROTECT
D103	RD5.1M-B2	RY PROTECT
D151	RBV-1506	AC RECT
D152	1SS119-25	CLAMP
D154	S16L60	+B RECT
D156	D1NS4	SWITCH
D158	D1NS4	SWITCH
D160	D1NS4	VCC RECT
D306	F10P03QL	SUB +5V RECT
D307	1SS184	ON/OFF RECT
D308	MA111	DISCHARGE
D309	D5LC20U	VCC RECT
D406	D10LC20U	+25V RECT
D409	D10LC20UR	–25V RECT
D410	RD10M-B2	OVP 2
D411	D10SC6M	+15V RECT
D412	D10SC6MR	–15V RECT
D413	D10LC20U	+115V RECT
D414	D10LC20UR	+115V RECT
D506	D1NL40-TR2	+200V RECT
D507	D1NL40-TR2	+200V RECT
D508	D10SC4MR	–6V RECT
D510	D1NL40-TR2	+200V RECT
D511	D1NL40-TR2	+200V RECT
D512	RD10M-B2	OVP 3
D513	D30SC4M	+6V RECT
D515	D10LC20U	+115V (HD) RECT
D516	D10LC20UR	+115V (HV) RECT
D601	1SS184	PROTECT
IC300	UPC1093J	SUB 5V REG
IC302	MX0341B-F	SWITCH
IC405	SE115N	+115V REG OUT
IC505	SE115N	+115V (HV) REG OUT
IC600	UPC393C	COMPARATOR
PH300	PC123FY2	VCC ON/OFF
PH400	PC123FY2	FEEDBACK 1
PH500	PC123FY2	FEEDBACK 2
Q100	2SA1162-G	RY PROTECT
Q101	2SA1162-G	RY PROTECT
Q151	2SK2198	SWITCH
Q152	2SK2198	SWITCH
Q153	2SD882-P	BUFFER
Q154	2SB772-Q	BUFFER
Q158	2SD882-P	BUFFER
Q159	2SA1162-G	VCC ON/OFF
Q160	2SA1162-G	VCC ON/OFF
Q161	2SB772-Q	BUFFER
Q302	2SC2712-YG	ON/OFF SWITCH
Q303	2SA1162-G	PROTECT
Q304	2SC2712-YG	PROTECT
Q305	2SA1162-G	SOFT START
Q400	2SK1567	SWITCH
Q401	2SK1567	SWITCH
Q500	2SK1567	SWITCH
Q501	2SK1567	SWITCH
Q601	2SC2712-YG	FAN PROTECT
Q602	2SC2712-YG	FAN PROTECT
Q603	DTC144EKA-T146	THERM PROTECT

Schematic Diagram
GA board ➜

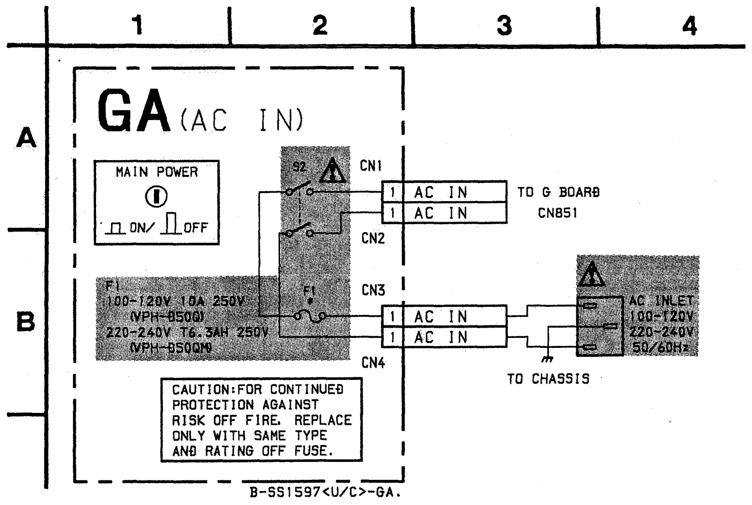
GA (AC IN) BOARD

— GA BOARD — <Conductor side>


S2
CN1
CN2
CN3
CN4
GA
1-662-466-11
SONY
F1

- ▨ : Pattern from the side which enables seeing.
- ▩ : Pattern of the rear side.

• GA (AC IN) DIAGRAM

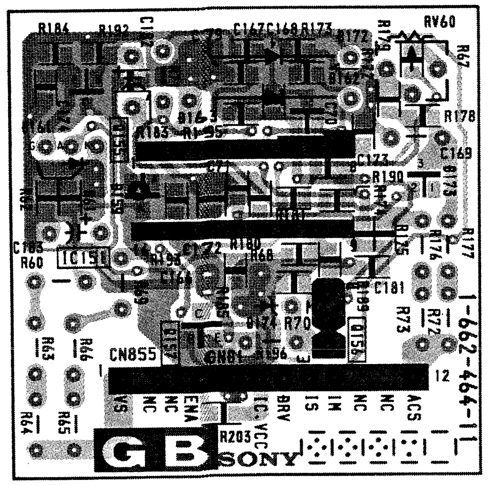

1
2
3
4
A
B
GA (AC IN)
MAIN POWER
ON/ OFF
S2
CN1
CN2
CN3
CN4
F1
F1
100-120V 10A 250V (VPH-D50Q)
220-240V T6.3AH 250V (VPH-D50QM)
1 AC IN
1 AC IN
1 AC IN
1 AC IN
TO G BOARD CN851
TO CHASSIS
AC INLET 100-120V 220-240V 50/60Hz
CAUTION:FOR CONTINUED PROTECTION AGAINST RISK OFF FIRE. REPLACE ONLY WITH SAME TYPE AND RATING OFF FUSE.
B-SS1597<U/C>-GA.

Note:
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

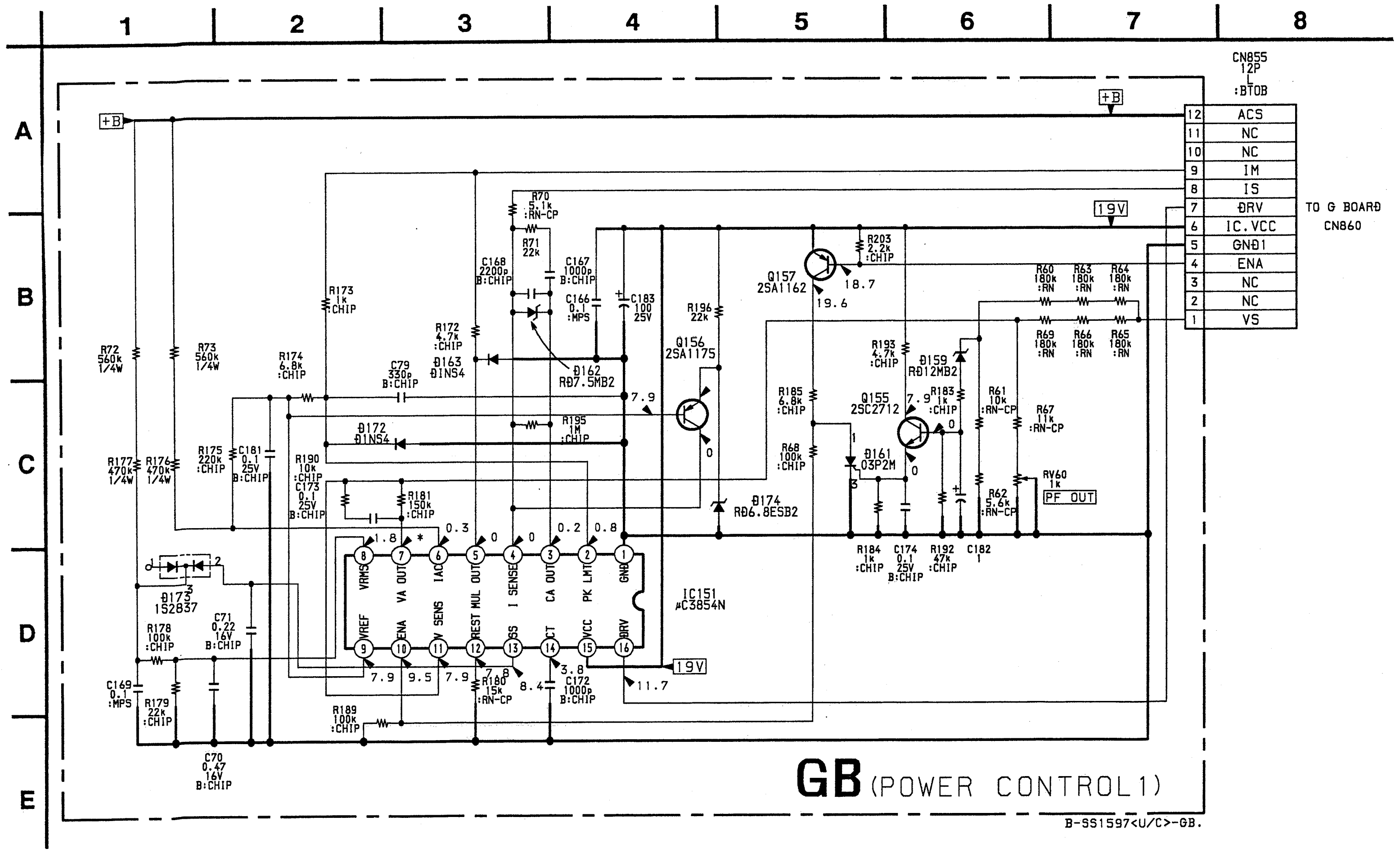
GB (POWER CONTROL 1) BOARD

— GB BOARD — <Conductor side>


CN855
1-662-464-11
GB
SONY
RV60
IC150

- ▨ : Pattern from the side which enables seeing.
- ▩ : Pattern of the rear side.

• GB (POWER CONTROL 1) DIAGRAM


CN855
12P
:BTOB
ACS
NC
NC
IM
IS
DRV
IC.VCC
GND1
ENA
NC
NC
VS
TO G BOARD
CN860
IC151
μC3854N
Q155
2SC2712
Q156
2SA1175
Q157
2SA1162
GB (POWER CONTROL 1)
B-SS1597<U/C>-GB.

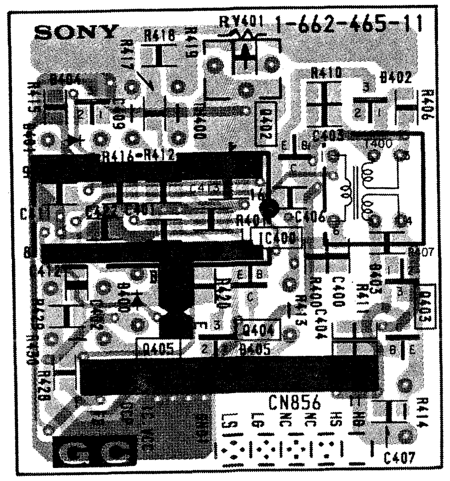
GB BOARD

Function of Semiconductor

D159	RD12M-B2	OVP 1
D161	03P2M	LUTCH
D162	RD7.5M-B2	CLAMP
D163	D1NS4	CLAMP
D172	D1NS4	CLAMP
D173	1SS184	DISCHARGE
D174	RD6.8ESB2	CLAMP
IC151	UC3854N	POWER CONTROL 1
Q155	2SC2712-YG	LUTCH
Q156	2SA1175-HFE	DRIVE
Q157	2SA1162-G	VCC ON/OFF

GC (POWER CONTROL 2) BOARD

— GC BOARD — <Conductor side>

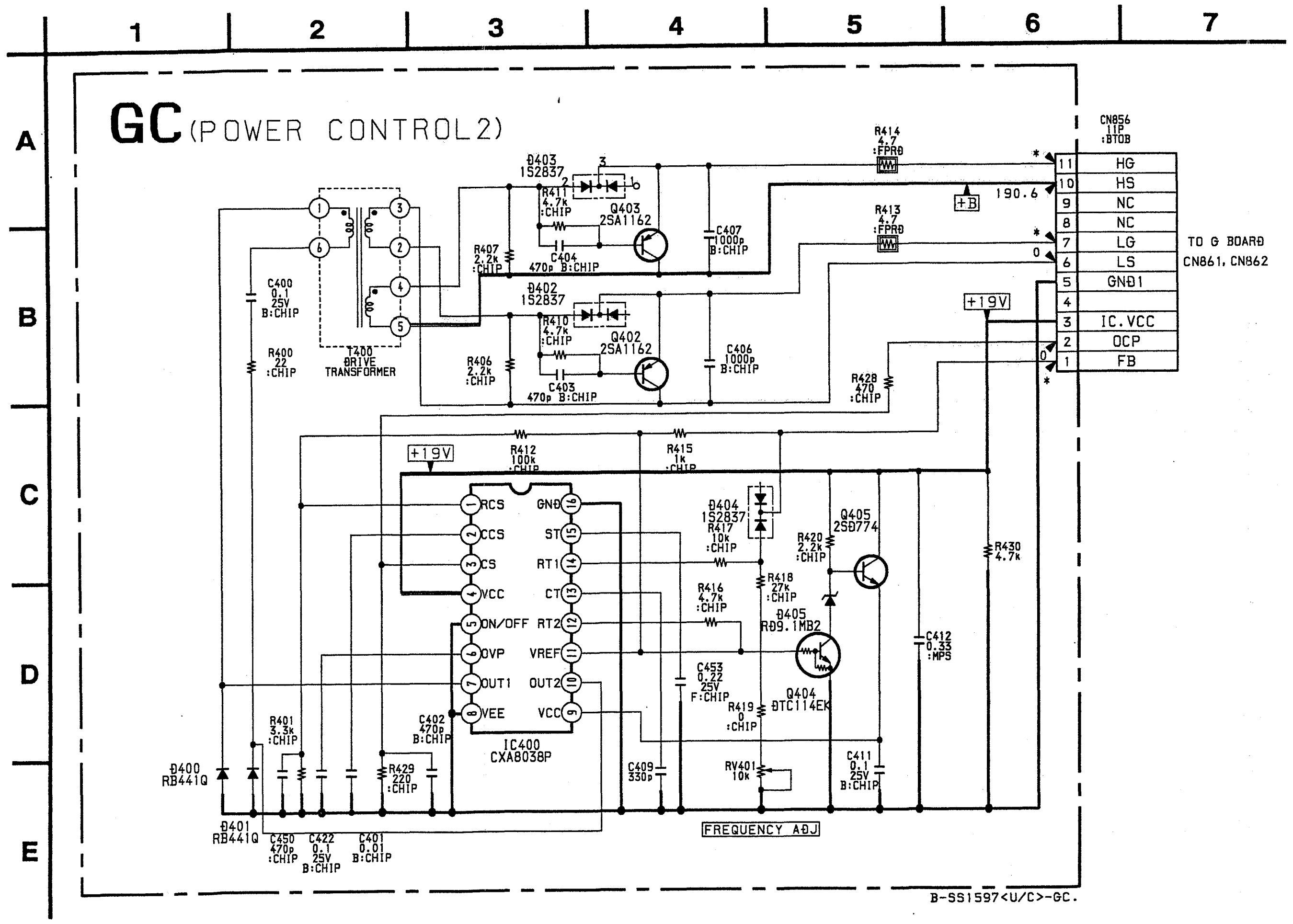

SONY
1-662-465-11
CN856
GC

- ▨ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side.

GC BOARD
Function of Semiconductor

D400	RB441Q	CLAMP
D401	RB441Q	CLAMP
D402	1SS184	DRV RECT
D403	1SS184	DRV RECT
D404	1SS184	FB RECT
D405	RD9.1M-B2	DRV REG
IC400	CXA8038P	POWER CONTROL 2
Q402	2SA1162-G	PROTECT
Q403	2SA1162-G	PROTECT
Q404	DTC114EK	DRV ON/OFF
Q405	2SD774-34	DRV REG

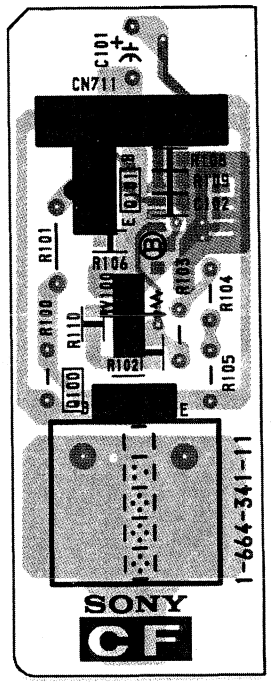
• GC (POWER CONTROL 2) DIAGRAM


GC (POWER CONTROL2)
CN856 11P :BTOB
HG
HS
NC
NC
LG
LS
GND1
IC.VCC
OCP
FB
TO G BOARD CN861, CN862
T400 DRIVE TRANSFORMER
IC400 CXA8038P
Q402 2SA1162
Q403 2SA1162
Q404 DTC114EK
Q405 2SD774
D400 RB441Q
D401 RB441Q
FREQUENCY ADJ
+19V
+B
B-SS1597<U/C>-GC.

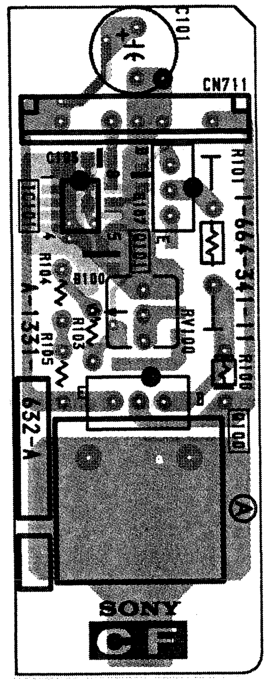
Schematic Diagram
← GB board

CF (+200V REG.) BOARD

— CF BOARD — <Conductor side>

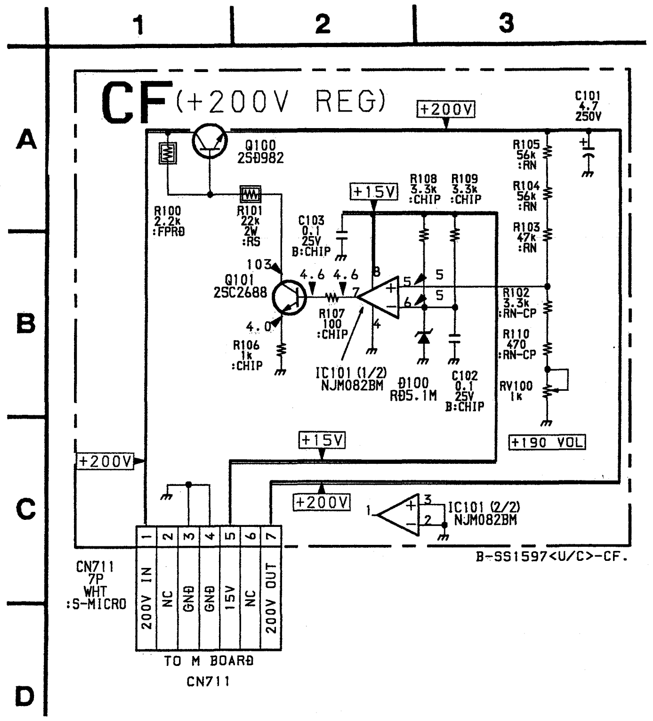

CN711
1-664-341-11
SONY
CF

— CF BOARD — <Component side>


CN711
1-664-341-11
A-1331-632-A
SONY
CF

- ▨ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side.

• CF (+200V REG.) DIAGRAM


CF (+200V REG)
Q100 2SD982
Q101 2SC2688
IC101 (1/2) NJM082BM
IC101 (2/2) NJM082BM
D100 RD5.1M
C101 4.7 250V
RV100 1k
+190 VOL
+200V
+15V
CN711 7P WHT :S-MICRO
200V IN
NC
GND
GND
15V
NC
200V OUT
TO M BOARD CN711
B-SS1597<U/C>-CF.

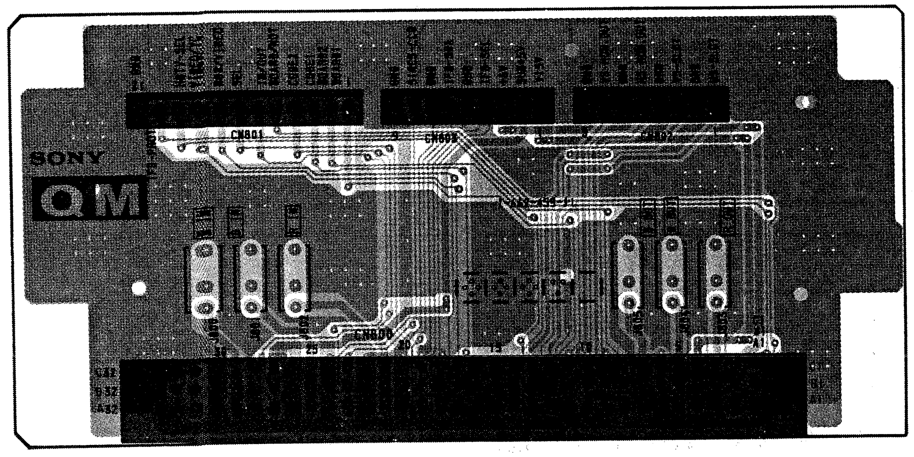
CF BOARD
Function of Semiconductor

D100	RD5.1M-B2	BIAS
IC101	NJM082BM-T1	REG AMP
Q100	2SD982	+200V REG
Q101	2SC2688-K	REG DRIVE

Schematic Diagram
CF board →

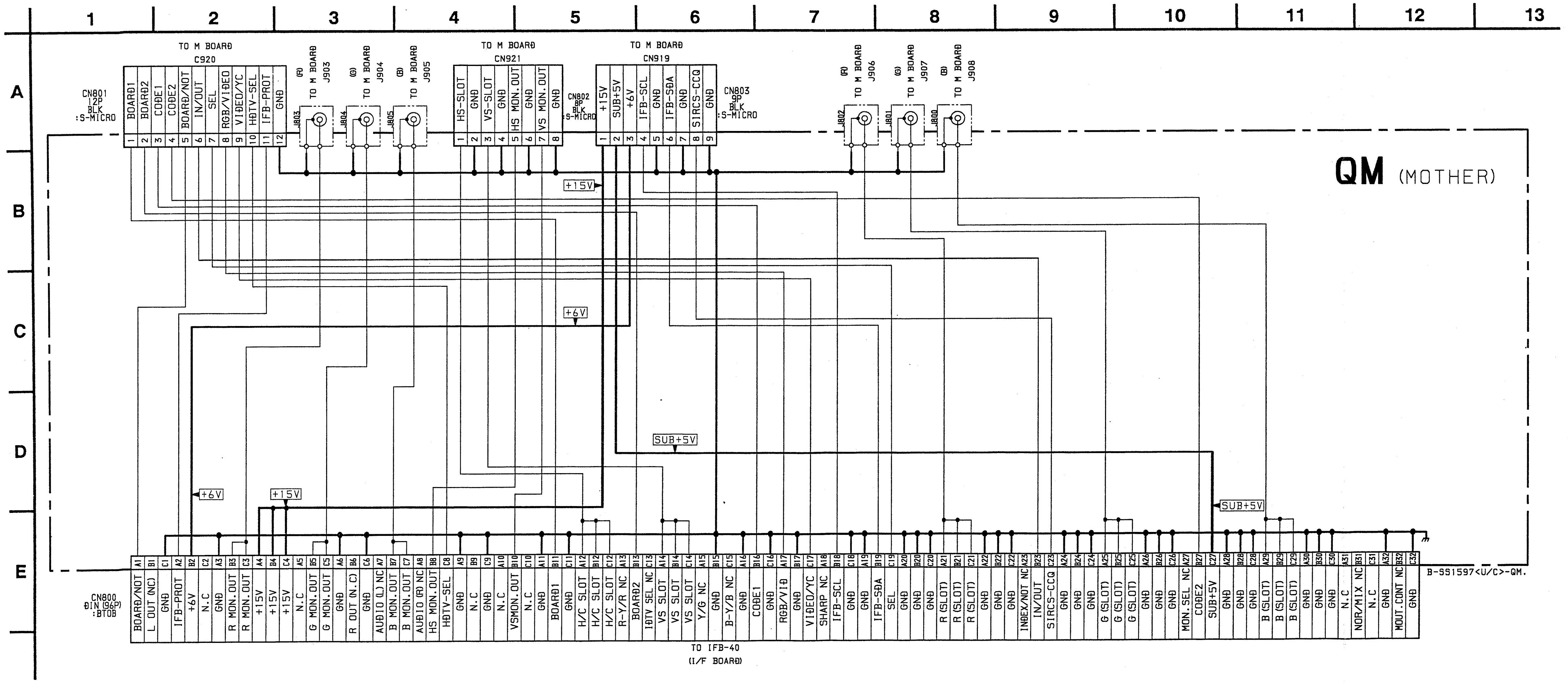
QM (MOTHER) BOARD

— QM BOARD — <Conductor side>


SONY
QM
CN801
CN802
CN803
CN800

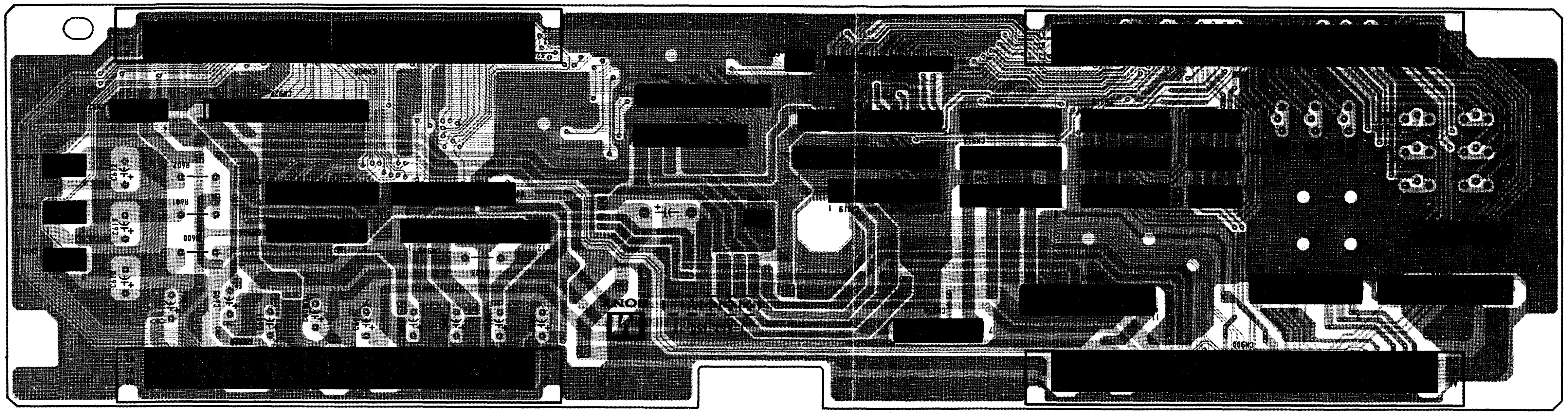
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

• QM (MOTHER) DIAGRAM


1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
TO M BOARD CN920
TO M BOARD J903
TO M BOARD J904
TO M BOARD J905
TO M BOARD CN921
TO M BOARD CN919
TO M BOARD J906
TO M BOARD J907
TO M BOARD J908
CN801 12P BLK :S-MICRO
CN802 8P BLK :S-MICRO
CN803 9P BLK :S-MICRO
BOARD1
BOARD2
CODE1
CODE2
BOARD/NOT
IN/OUT
SEL
RGB/VIDEO
VIDEO/YC
HDTV-SEL
IFB-PROT
GND
HS-SLOT
VS-SLOT
HS MON.OUT
VS MON.OUT
+15V
SUB+5V
+6V
IFB-SCL
IFB-SDA
SIRCS-CCQ
J803
J804
J805
J802
J801
J800
+15V
+6V
SUB+5V
QM (MOTHER)
CN800 DIN (96P) :BTOB
TO IFB-40 (I/F BOARD)
B-SS1597<U/C>-QM.

M (MOTHER) BOARD

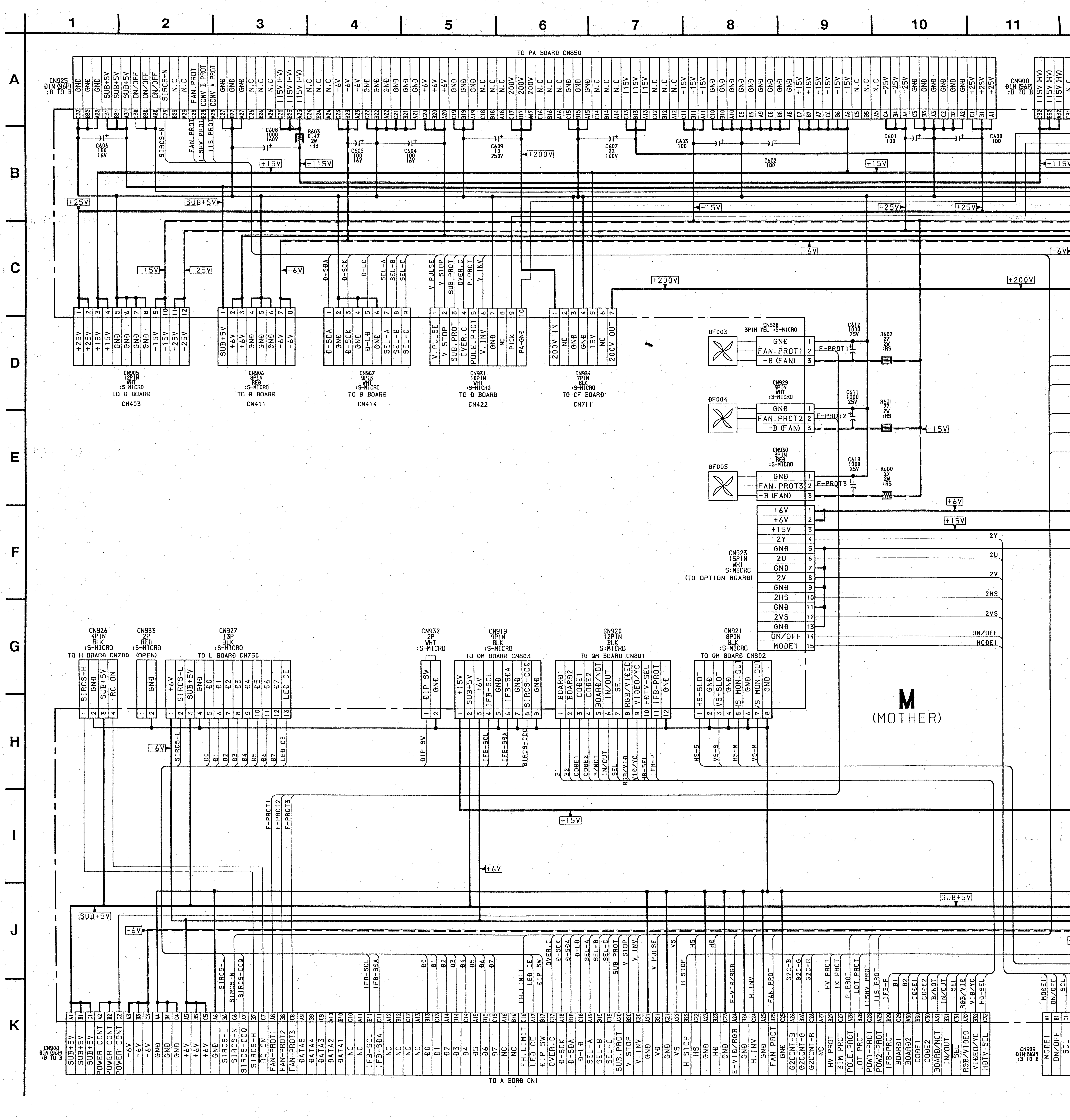
— M BOARD — <Conductor side>

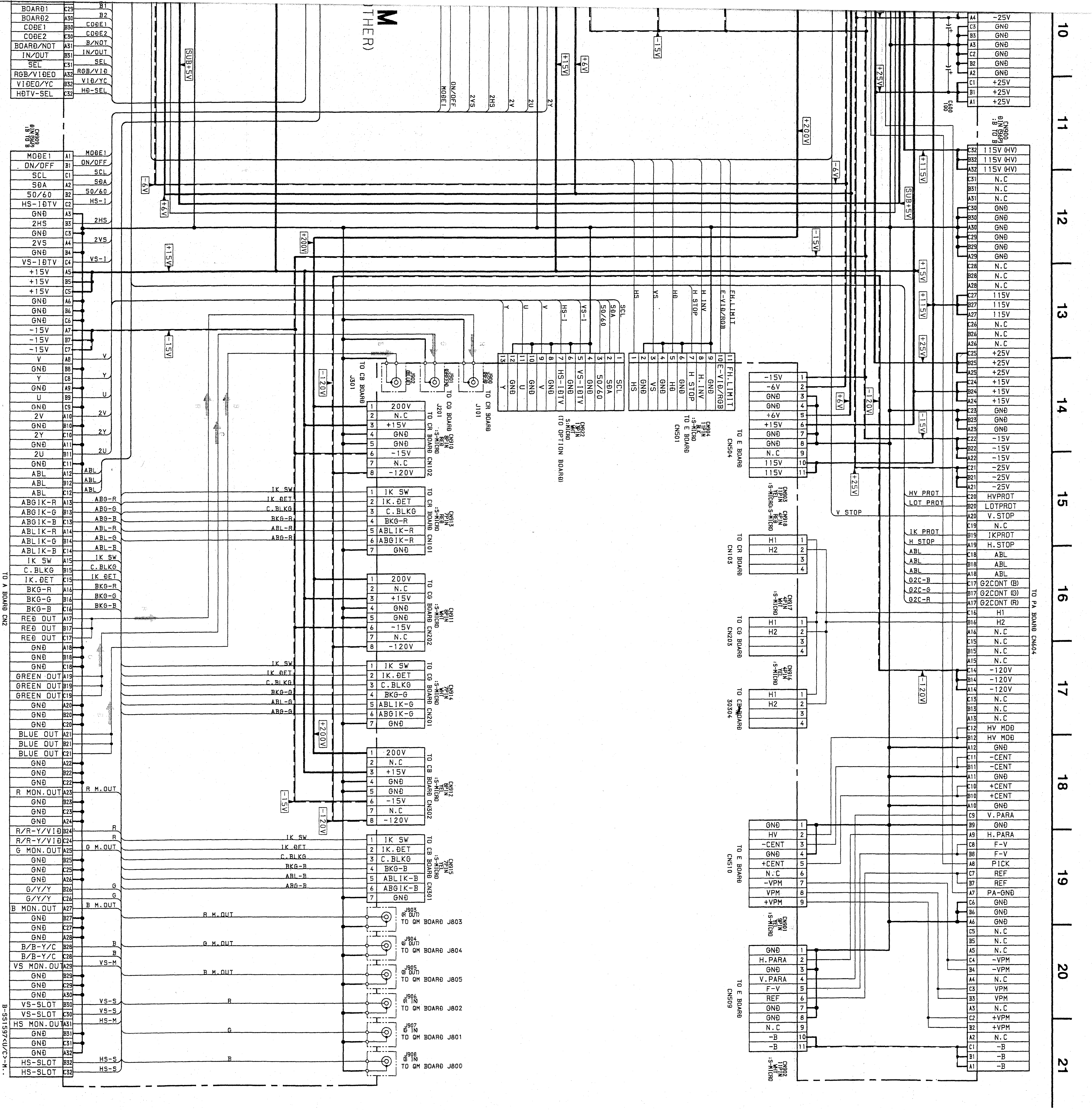


- ▨ : Pattern from the side which enables seeing.
- ▩ : Pattern of the rear side.

Schematic Diagram
← QM board

• M (MOTHER) DIAGRAM


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
CN925 BIN (96P) :B TO B
TO PA BOARD CN850
CN900 BIN (96P) :B TO B
C608 1000 160V
R603 0.47 2W :RS
C606 100 16V
C605 100 16V
C604 100 16V
C609 10 250V
C607 22 160V
C603 100
C602 100
C601 100
C600 100
+25V
SUB+5V
+15V
+115V
-15V
-25V
-6V
+200V
+6V
CN905 12PIN WHT :S-MICRO TO D BOARD CN403
CN906 8PIN RED :S-MICRO TO D BOARD CN411
CN907 9PIN WHT :S-MICRO TO D BOARD CN414
CN931 10PIN WHT :S-MICRO TO D BOARD CN422
CN934 7PIN BLK :S-MICRO TO CF BOARD CN711
DF003
DF004
DF005
CN928 3PIN YEL :S-MICRO
CN929 3PIN WHT :S-MICRO
CN930 3PIN RED :S-MICRO
GND
FAN.PROT1
FAN.PROT2
FAN.PROT3
-B (FAN)
F-PROT1
F-PROT2
F-PROT3
C612 1000 25V
C611 1000 25V
C610 1000 25V
R602 27 2W :RS
R601 27 2W :RS
R600 27 2W :RS
CN923 15PIN WHT S:MICRO (TO OPTION BOARD)
CN926 4PIN BLK :S-MICRO TO H BOARD CN700
CN933 2P RED :S-MICRO (OPEN)
CN927 13P BLK :S-MICRO TO L BOARD CN750
CN932 2P WHT :S-MICRO
CN919 9PIN BLK :S-MICRO TO QM BOARD CN803
CN920 12PIN BLK :S-MICRO TO QM BOARD CN801
CN921 8PIN BLK :S-MICRO TO QM BOARD CN802
M
(MOTHER)
CN908 BIN (96P) :B TO B
TO A BORD CN1
CN909 BIN (96P) :B TO B

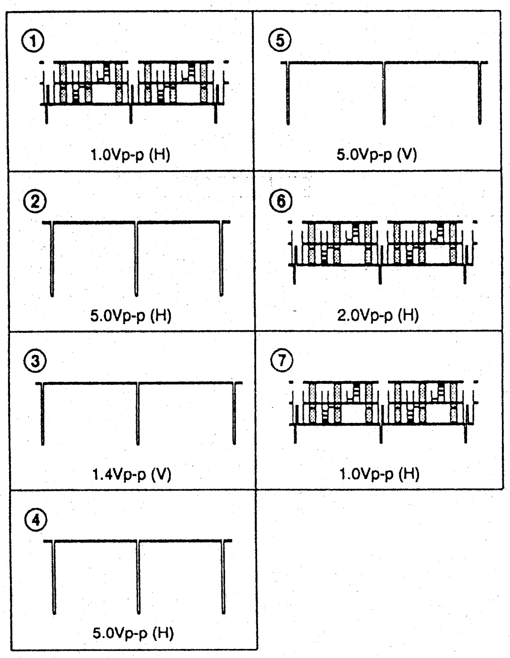

BOARD1
BOARD2
CODE1
CODE2
BOARD/NOT
IN/OUT
SEL
RGB/VIDEO
VIDEO/YC
HDTV-SEL
SUB+5V
+15V
+6V
-15V
+25V
+200V
-6V
+115V
-120V
MODE1
ON/OFF
2VS
2HS
2V
2U
2Y
MODE1
ON/OFF
SCL
SDA
50/60
HS-IDTV
GND
2HS
2VS
VS-IDTV
+15V
-15V
V
Y
U
2V
2Y
2U
ABL
ABGIK-R
ABGIK-G
ABGIK-B
ABLIK-R
ABLIK-G
ABLIK-B
IK SW
C.BLKG
IK.DET
BKG-R
BKG-G
BKG-B
RED OUT
GREEN OUT
BLUE OUT
R MON.OUT
R/R-Y/VID
G MON.OUT
G/Y/Y
B MON.OUT
B/B-Y/C
VS MON.OUT
VS-SLOT
HS MON.OUT
HS-SLOT
TO A BOARD CN2
R M.OUT
G M.OUT
B M.OUT
VS-M
VS-S
HS-M
HS-S
TO CR BOARD J301
TO CG BOARD J201
TO CR BOARD J101
200V
N.C
TO CR BOARD CN102
IK SW
IK.DET
C.BLKG
BKG-R
ABLIK-R
ABGIK-R
TO CR BOARD CN101
TO CG BOARD CN202
BKG-G
ABLIK-G
ABGIK-G
TO CG BOARD CN201
TO CB BOARD CN302
BKG-B
ABLIK-B
ABGIK-B
TO CB BOARD CN301
TO QM BOARD J803
TO QM BOARD J804
TO QM BOARD J805
TO QM BOARD J802
TO QM BOARD J801
TO QM BOARD J800
Y
U
V
HS-1
VS-1
50/60
SDA
SCL
HS-IDTV
VS-IDTV
(TO OPTION BOARD)
HS
VS
HD
H STOP
H INV
E-VID/RGB
FH.LIMIT
TO E BOARD CN501
-15V
-6V
+6V
+15V
115V
TO E BOARD CN504
H1
H2
TO CR BOARD CN105
TO CG BOARD CN203
TO CB BOARD CN304
GND
HV
-CENT
+CENT
-VPM
VPM
+VPM
TO E BOARD CN510
H.PARA
V.PARA
F-V
REF
-B
TO E BOARD CN509
V STOP
HV PROT
LOT PROT
IK PROT
H STOP
G2C-B
G2C-G
G2C-R
-25V
+25V
115V (HV)
115V
+15V
-15V
-120V
HVPROT
LOTPROT
V.STOP
IKPROT
H.STOP
G2CONT (B)
G2CONT (G)
G2CONT (R)
HV MOD
PICK
PA-GND
TO PA BOARD CN604
10
11
12
13
14
15
16
17
18
19
20
21

B-SS1597<U/C>-M..

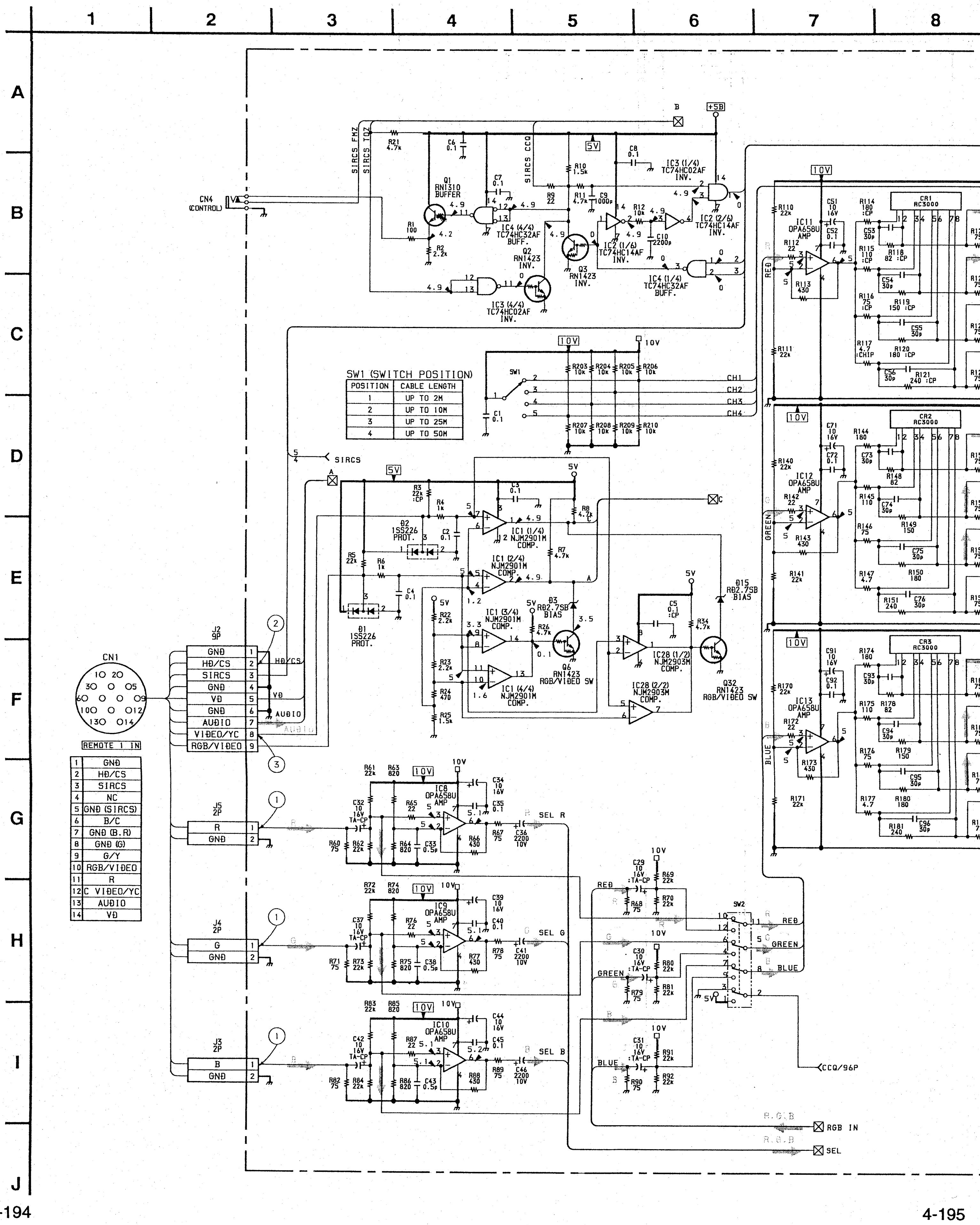
Schematic Diagram

IFB-40 (1/2) board →

IFB-40 Board Waveforms



- **IFB-40 (1/2) (INTERFACE) DIAGRAM**
- Refer to page 4-199 for Printed Wiring Board

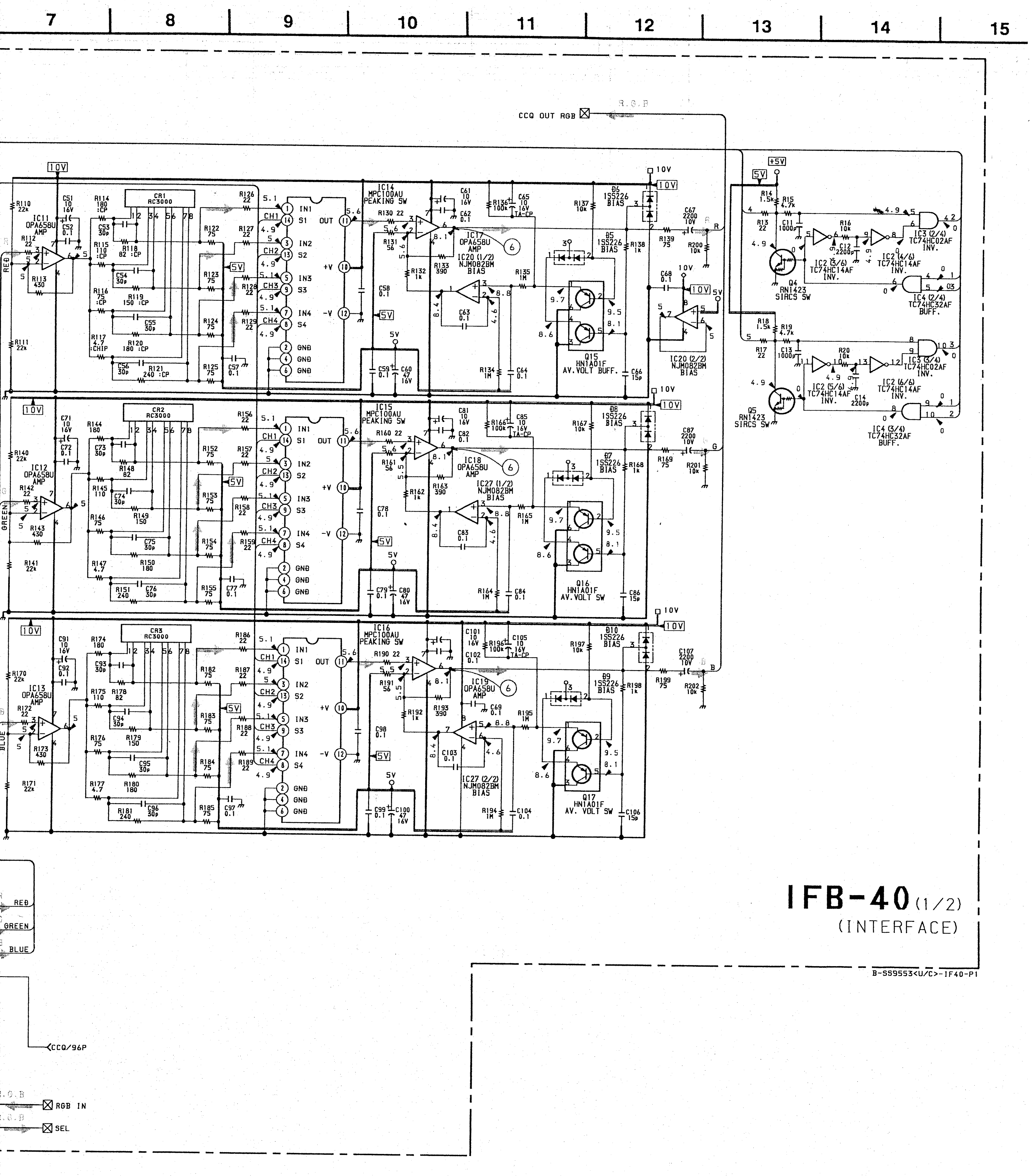

1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
CN4
(CONTROL)
SIRCS FMZ
SIRCS TDZ
SIRCS CCQ
Q1
RN1510
BUFFER
IC4 (4/4)
TC74HC32AF
BUFF.
Q2
RN1423
INV.
IC3 (4/4)
TC74HC02AF
INV.
Q3
RN1423
INV.
IC2 (1/6)
TC74HC14AF
INV.
IC3 (1/4)
TC74HC02AF
INV.
IC2 (2/6)
TC74HC14AF
INV.
IC4 (1/4)
TC74HC32AF
BUFF.
B
+5B
5V
10V
SW1
CH1
CH2
CH3
CH4
SIRCS
A
C
IC1 (1/4)
NJM2901M
COMP.
IC1 (2/4)
NJM2901M
COMP.
IC1 (3/4)
NJM2901M
COMP.
IC1 (4/4)
NJM2901M
COMP.
D1
1SS226
PROT.
D2
1SS226
PROT.
D3
RD2.7SB
BIAS
Q6
RN1423
RGB/VIDEO SW
IC28 (1/2)
NJM2903M
COMP.
IC28 (2/2)
NJM2903M
COMP.
D15
RD2.7SB
BIAS
Q32
RN1423
RGB/VIDEO SW
CN1
J2
9P
HD/CS
VD
AUDIO
J5
2P
J4
2P
J3
2P
R
G
B
GND
IC8
OPA658U
AMP
IC9
OPA658U
AMP
IC10
OPA658U
AMP
SEL R
SEL G
SEL B
RED
GREEN
BLUE
SW2
CCQ/96P
RGB IN
SEL
IC11
OPA658U
AMP
IC12
OPA658U
AMP
IC13
OPA658U
AMP
CR1
RC3000
CR2
RC3000
CR3
RC3000

SW1 (SWITCH POSITION)

POSITION	CABLE LENGTH
1	UP TO 2M
2	UP TO 10M
3	UP TO 25M
4	UP TO 50M

REMOTE 1 IN

1	GND
2	HD/CS
3	SIRCS
4	NC
5	GND (SIRCS)
6	B/C
7	GND (B.R)
8	GND (G)
9	G/Y
10	RGB/VIDEO
11	R
12	C VIDEO/YC
13	AUDIO
14	VD

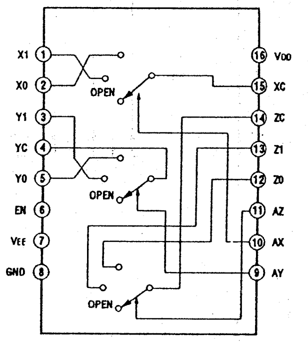

7
8
9
10
11
12
13
14
15
CCQ OUT RGB
10V
5V
+5V
IC11 OPA658U AMP
IC12 OPA658U AMP
IC13 OPA658U AMP
CR1 RC3000
CR2 RC3000
CR3 RC3000
IC14 MPC100AU PEAKING SW
IC15 MPC100AU PEAKING SW
IC16 MPC100AU PEAKING SW
IC17 OPA658U AMP
IC18 OPA658U AMP
IC19 OPA658U AMP
IC20 (1/2) NJM082BM BIAS
IC20 (2/2) NJM082BM BIAS
IC27 (1/2) NJM082BM BIAS
IC27 (2/2) NJM082BM BIAS
Q15 HN1A01F AV. VOLT BUFF.
Q16 HN1A01F AV. VOLT SW
Q17 HN1A01F AV. VOLT SW
D5 1SS226 BIAS
D6 1SS226 BIAS
D7 1SS226 BIAS
D8 1SS226 BIAS
D9 1SS226 BIAS
D10 1SS226 BIAS
Q4 RN1423 SIRCS SW
Q5 RN1423 SIRCS SW
IC2 (5/6) TC74HC14AF INV.
IC2 (4/6) TC74HC14AF INV.
IC2 (6/6) TC74HC14AF INV.
IC3 (2/4) TC74HC02AF INV.
IC3 (3/4) TC74HC02AF INV.
IC4 (2/4) TC74HC32AF BUFF.
IC4 (3/4) TC74HC32AF BUFF.
RED
GREEN
BLUE
CCQ/96P
RGB IN
SEL
B-SS9553<U/C>-IF40-P1

IFB-40 (1/2)

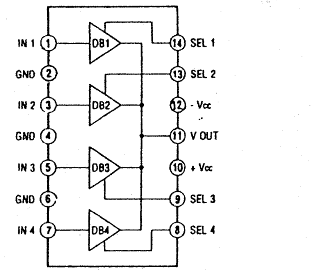
(INTERFACE)

IFB-40 IC BLOCK DIAGRAMS

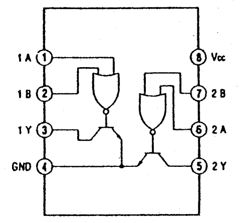
MC74HC4053F (IC21, 22)


X1 1
X0 2
Y1 3
YC 4
Y0 5
EN 6
VEE 7
GND 8
16 VDD
15 XC
14 ZC
13 Z1
12 Z0
11 AZ
10 AX
9 AY
OPEN
OPEN
OPEN

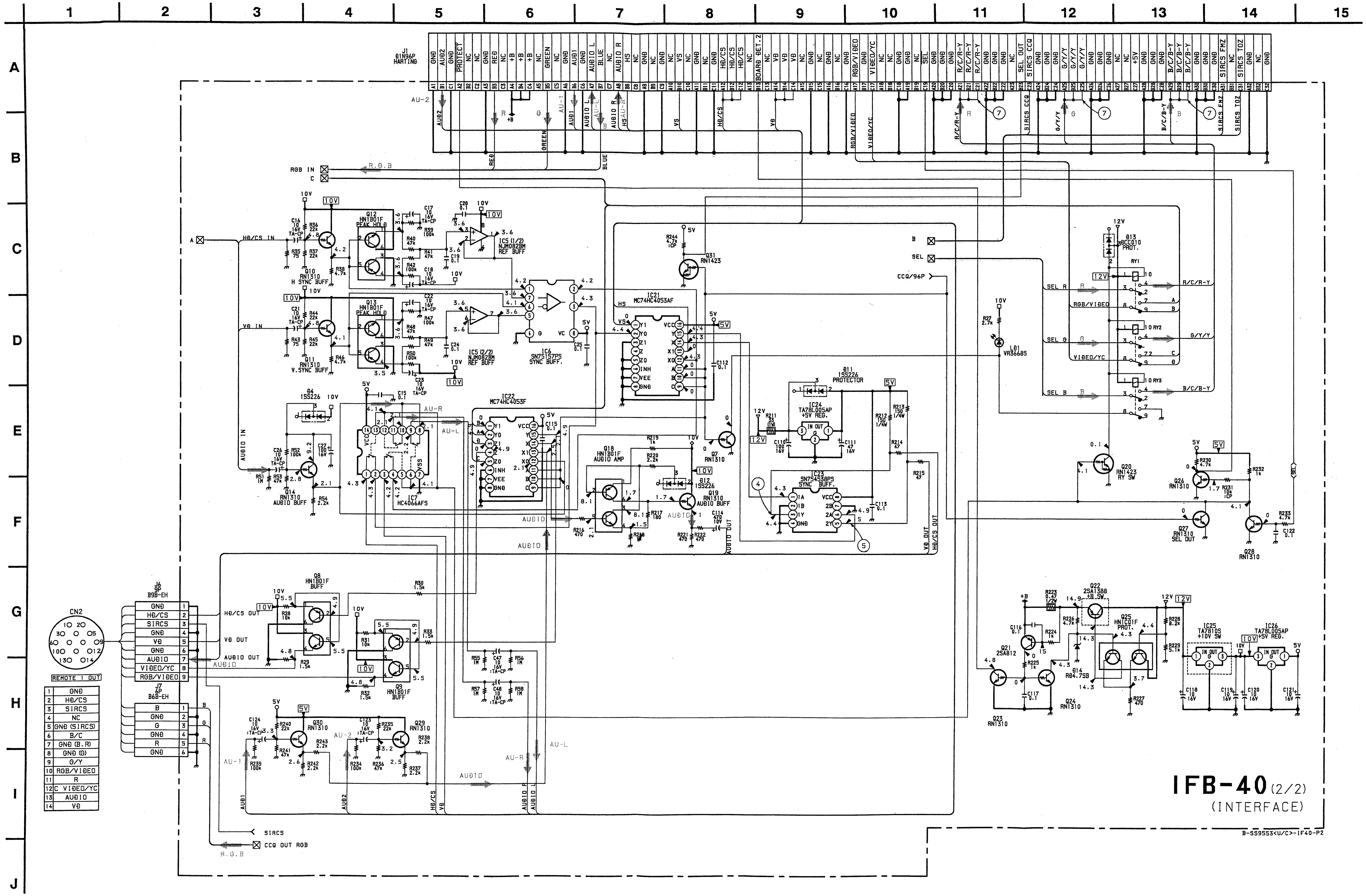
MPC100AU (IC14–16)


IN 1 1
GND 2
IN 2 3
GND 4
IN 3 5
GND 6
IN 4 7
14 SEL 1
13 SEL 2
12 -Vcc
11 V OUT
10 +Vcc
9 SEL 3
8 SEL 4
DB1
DB2
DB3
DB4

SN75453BPS (IC23)


1A 1
1B 2
1Y 3
GND 4
8 Vcc
7 2B
6 2A
5 2Y

- **IFB-40 (1/2) (INTERFACE) DIAGRAM**
- Refer to page 4-199 for Printed Wiring Boarc

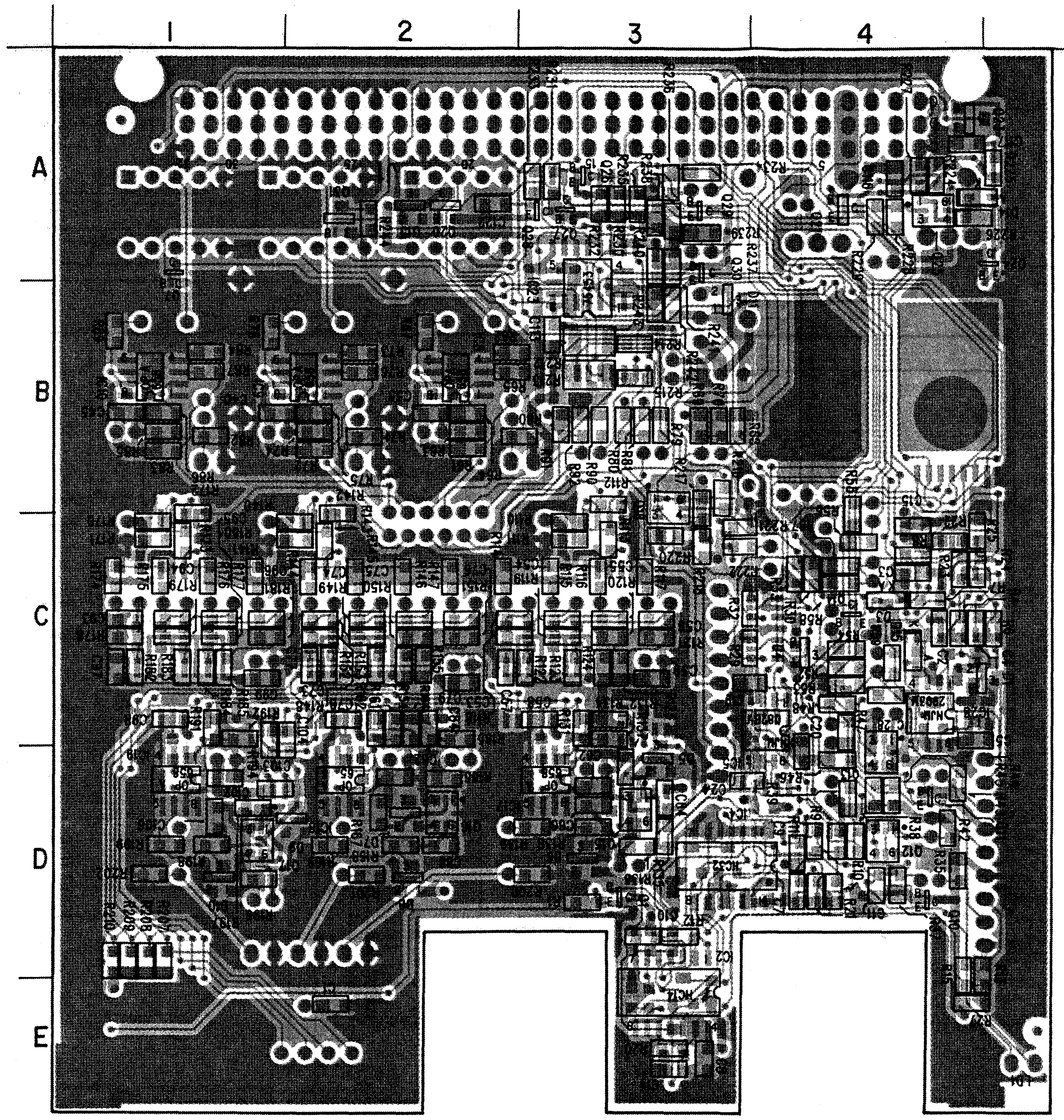

J1
B1N96P
HARTING
RGB IN
C
A
HD/CS IN
VD IN
AUDIO IN
Q12 HN1B01F PEAK HOLD
Q10 RN1310 H SYNC BUFF
Q13 HN1B01F PEAK HOLD
Q11 RN1310 V.SYNC BUFF
IC5 (1/2) NJM082BM REF BUFF
IC5 (2/2) NJM082BM REF BUFF
IC6 SN75157PS SYNC BUFF.
IC21 MC74HC4053AF
IC22 MC74HC4053F
IC7 HC4066AFS
D4 1SS226
Q14 RN1310 AUDIO BUFF
Q18 HN1B01F AUDIO AMP
Q19 RN1310 AUDIO BUFF
D12 1SS226
Q7 RN1310
Q31 RN1423
D11 1SS226 PROTECTOR
IC24 TA78L005AP +5V REG.
IC23 SN75458BPS SYNC BUFF.
B
SEL
CCQ/96P
L01 VR3668S
D13 02CC010 PROT.
RY1
RY2
RY3
R/C/R-Y
G/Y/Y
B/C/B-Y
Q20 RN1423 RY SW
Q26 RN1310
Q27 RN1310 SEL OUT
Q28 RN1310
CN2
REMOTE 1 OUT
1 GND
2 HD/CS
3 SIRCS
4 NC
5 GND (SIRCS)
6 B/C
7 GND (B.R)
8 GND (G)
9 G/Y
10 RGB/VIDEO
11 R
12 C VIDEO/YC
13 AUDIO
14 VD
J6 9P B9B-EH
J7 6P B6B-EH
HD/CS OUT
VD OUT
AUDIO OUT
Q8 HN1B01F BUFF
Q9 HN1B01F BUFF
Q30 RN1310
Q29 RN1310
SIRCS
CCQ OUT RGB
Q22 2SA1388 +B SW
Q21 2SA812
Q23 RN1310
Q24 RN1310
D14 RB4.7SB
Q25 HN1C01F PROT.
IC25 TA7810S +10V SW
IC26 TA78L005AP +5V REG.
IFB-40 (2/2)
(INTERFACE)
B-SS9553<U/C>-IF40-P2

IFB-40 (INTERFACE) BOARD

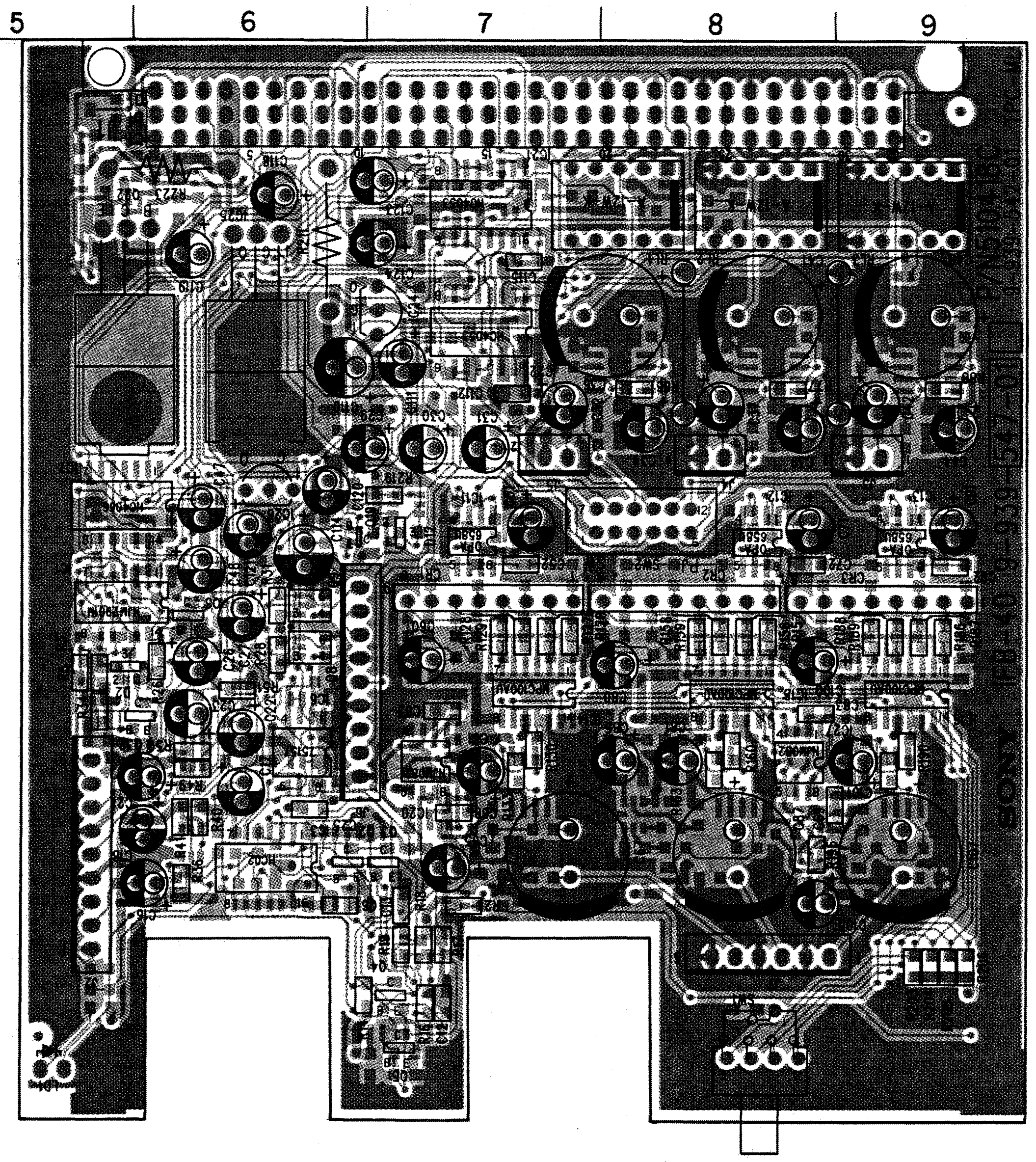
IFB-40 BOARD
Semiconductor Location

DIODE	
D1	C-4
D2	C-5
D3	C-4
D5	D-3
D6	D-3
D7	D-2
D8	D-2
D9	D-2
D10	D-1
D11	B-3
D12	C-7
D13	A-2
D14	A-5
D15	C-4
LD1	E-5
IC	
IC1	C-5
IC2	E-3
IC3	D-6
IC4	D-3
IC5	C-4
IC6	D-6
IC7	B-5
IC8	B-2
IC9	B-2
IC10	B-1
IC11	C-7
IC12	C-8
IC13	C-9
IC14	C-7
IC15	C-8
IC16	C-9
IC17	D-3
IC18	D-2
IC19	D-1
IC20	D-7
IC21	A-7
IC22	B-7
IC23	B-3
IC24	B-7
IC25	B-6
IC26	B-6
IC27	D-8
IC28	C-4
TRANSISTOR	
Q1	D-3
Q2	D-6
Q3	D-7
Q4	E-7
Q5	E-7
Q6	C-6
Q7	A-1
Q8	C-6
Q9	C-6
Q10	D-4
Q11	D-4
Q12	D-4
Q13	D-4
Q14	C-4
Q15	D-3
Q16	D-2
Q17	D-1
Q18	B-3
Q19	C-6
Q20	A-2
Q21	A-4
Q22	B-6
Q23	A-4
Q24	A-5
Q25	A-4
Q26	A-3
Q27	A-3
Q28	A-3
Q29	A-3
Q30	B-3
Q31	A-2
Q32	C-6

— IFB-40 BOARD — <Conductor side>



— IFB-40 BOARD — <Component side>

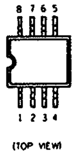


- ■ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

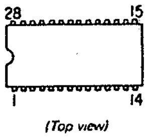
Schematic Diagram
← IFB-40 (2/2) board

4-5. SEMICONDUCTOR LOCATIONS

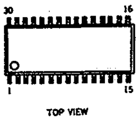
CXA1450M-T4
EL2186CS-TE2
GS1881-CKA
MAX4121CSA-TE2
MAX762CSA-TE2
MM1112XFF
NJM082BM-T1
NJM2235M-T1
NJM2240M
NJM4200M-T1
TC4W53F
TC4W66FU
TC7W04FU
TC7W08F
TC7W14F
TC7W24FU-TE12R
TC7W32F
TL082CPS-E-20
µPC393G2
µPC4082G2
µPC4588G2


8 7 6 5
1 2 3 4
(TOP VIEW)

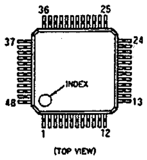
CXA1158P
LM1282N
M27C512-10F1
M48Z30Y-100PM1


28
15
1
14
(Top view)

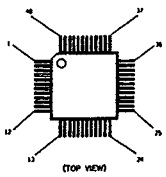
CXA1726AM-T6


30
16
1
15
TOP VIEW

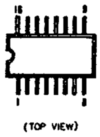
CXA1839Q
CXA2011Q


36
25
37
24
INDEX
48
13
1
12
(TOP VIEW)

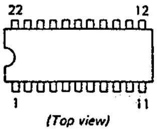
CXA1855Q


48
37
1
36
12
25
13
24
(TOP VIEW)

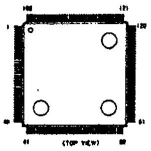
CXA1875AM-T4
CXA8038P
MAX8213BCSE-TE2
MC74HC4053F-T2
MC74HC4538AF
PCF8574T-T
SN74HC123AF
SN74HC138ANS
SN74HC139ANS
SN74HC157ANS
SN75123NS
TC74HC123AF
TC74HC153F
TC74HC4053AF


16
9
1
8
(TOP VIEW)

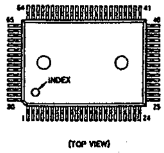
CXA2016S
µPC1377C


22
12
1
11
(Top view)

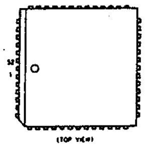
CXD108-146Q



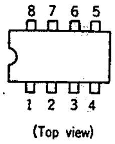
CXD2024AQ


INDEX
(TOP VIEW)

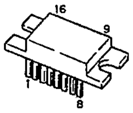
CY7C136-55JC-TEL
EPM7032QC-44-12-IRE



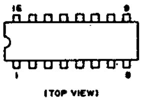
EL2160CN
LM393P
LM6361M-T1
MM1170BFB
SN5157PS
TL082CP
µPC393C
µPC4558C
µPC814C
µPC814G2-T1


8 7 6 5
1 2 3 4
(Top view)

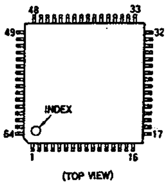
GL6P202



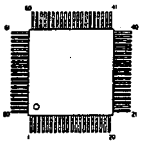
HD14538BFP-TL
MC14040BCP
MC14495P1
MC14572UBCP
TDA4665T-T
TC74HC238AP
µC3854N


16
9
1
8
(TOP VIEW)

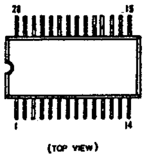
HD6433257A33F


48
33
49
32
INDEX
64
17
1
16
(TOP VIEW)

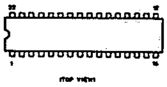
HD643337WA08F


60
41
61
40
80
21
1
20

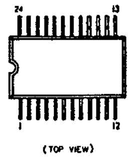
HM6264BLFP-10LTZ
MAX211ESAI-TE2
µPD17215


28
15
1
14
(TOP VIEW)

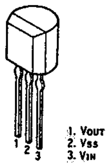
HN58C1001P-15
M27C1001-10F1



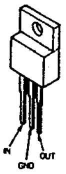
ICS1522MT
MB86022PF
MP7670AS-TE2


24
13
1
12
(TOP VIEW)

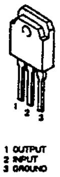
LM2931Z-5.0


1 2 3
1. VOUT
2. VSS
3. VIN

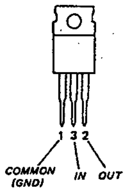
LM2940CT-5.0
LM7812CT
NJM7809FA



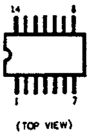
LM2990T-5.0


1 2 3
1 OUTPUT
2 INPUT
3 GROUND

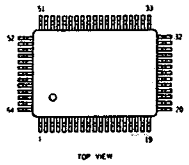
LM7912CT


1 3 2
COMMON (GND)
IN
OUT

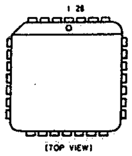
MAX487ECSA-TE2
MAX489ECSD-TE2
MC74HC02AF-T2
MC74HC4078FEL
NJM084M-TE2
SN74HC00ANS
SN74HC04ANS
SN74HC08ANS
SN74HC11ANS
SN74HC164ANS
SN74HC32ANS
SN74HC74ANS
SN74HCT08ANS
TC74HC4066AF
TC74VHC08F
TC74VHC132F
TC74VHC14F
TC74VHC164F
TC74VHC32F
TC74VHC74F
TC7S14F


14
8
1
7
(TOP VIEW)

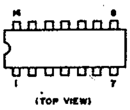
MB654842UPF
MB671469PF
MB90091APF-114


51
33
52
32
64
20
1
19
TOP VIEW

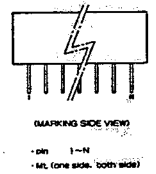
MC10H64CFNR2


1 28
(TOP VIEW)

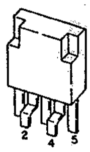
MC14001BCP
MC14011BCP
MC1436CP1
MC1495BP
SN74HC08AN
SN74HC125AN
TC74HC107AF
TC74HC14AF
µPC1394C


14
8
1
7
(TOP VIEW)

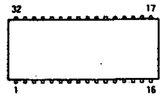
MC8639A


1
N
(MARKING SIDE VIEW)
• pin 1~N
• kit. (one side. both side)

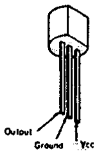
MX0341B-F



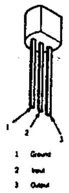
M27C4001-10F1
TDA9141-N2C



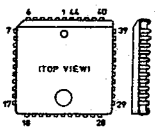
NJM78L12A


Output
Ground
Vcc

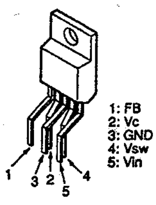
NJM79L12A


1
2
3
1 Ground
2 Input
3 Output

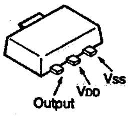
PC16550DV-FL63


6
1 44
40
7
39
(TOP VIEW)
17
29
18
28

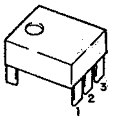
PQ20VZ5U


1: FB
2: Vc
3: GND
4: Vsw
5: Vin
1
3
2
5
4

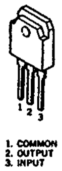
RH5VL43AA-T1


Output
VDD
Vss

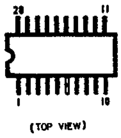
SBX1780-51



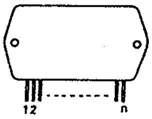
SE11SN


1
2
3
1. COMMON
2. OUTPUT
3. INPUT

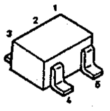
SN74HC541ANS
TC74HC273AF
TC74HC573AF


20
11
1
10
(TOP VIEW)

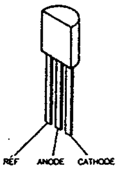
STK392-040



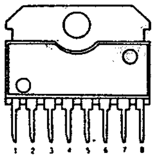
TC4S66F
TC7S00F
TC7S04F
TC7S08FU
TC7S32F
TC7S66F



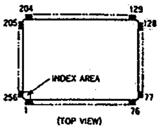
TL431CLP
µPC1093J


REF
ANODE
CATHODE

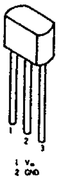
µPC1498H



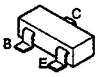
µPD65806GD-064-LML


204
129
205
128
INDEX AREA
256
77
1
76
(TOP VIEW)

VPH06

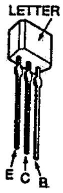

1
2
3
1 Vin
2 GND
3 Vout

DTA144EKA-T146
DTC144EKA-T146
2SA1162-YG-TE85L
2SC2712-YG-TE85L
2SC3545-T44

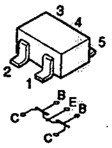


DTC144ESA
DTC144ESA-TP
2SA1175-F
2SA1175TP-HFE

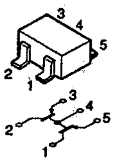
LETTER SIDE



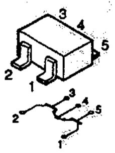
FMS1-T-148


3
4
5
2
1
C
B
E
B
C

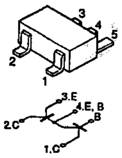
FMS2-T-148



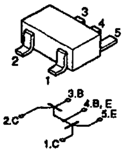
FMW1-T-148
FMW5-T-148


3
4
5
2
1
3
4
5
2
1

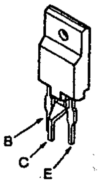
FMY3A-T-148


3
4
5
2
1
3.E
4.E, B
5.B
2.C
1.C

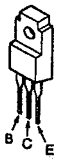
FMY4A-T148


3
4
5
2
1
3.B
4.B, E
5.E
2.C
1.C

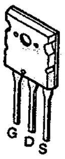
IRFI9620GS



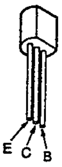
IRFIP250



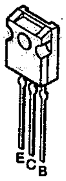
IRFP460



2SA1207-AA
2SC1906

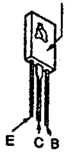


2SA1358-Y
2SC3421-Y

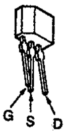


2SA1381-E
2SB648A-C
2SB772-P
2SC2688-L
2SC2688-LK
2SC3955DE
2SD882

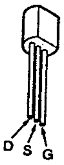
LETTER SIDE



2SA1462-T1Y34



2SB772-P
2SK523TP-M1



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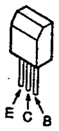
2SD774-T-34



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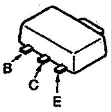

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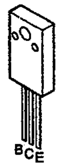

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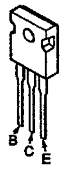

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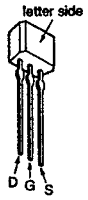
letter side
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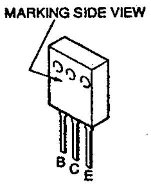
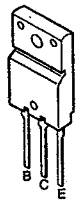
2SC3997CA


MARKING SIDE VIEW
B
C
E

2SC4630LS



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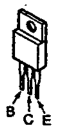

2SJ143
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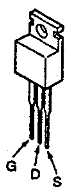
2SK929



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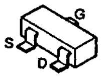

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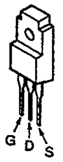

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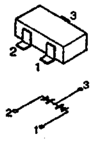
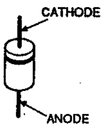


DFC15TR
ERC35-02
ERD29-08J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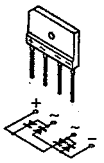
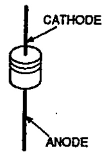
D1NL40-TR2
RBV-1506



D1NS4-TA
RB441Q
RD13ES-T1B2
RD15ES-T1B2
RD20ES-T1B2
RD33ESB2
RD33ES-T1B2
RD39ES-T1B2
RD5.1ESB2
RD6.2ES-T1B2
1SS119


CATHODE
ANODE

D1NS-TR2
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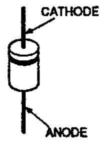
RD10ES-T1B2
RD2.2M-T1B
RD6.8ES-T1B2
1SS83TD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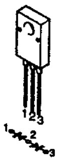
D10SC4MR
D10LC20UR



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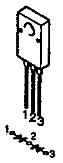

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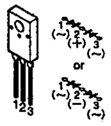
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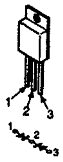
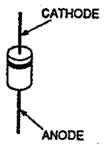
D30SC4M
F10P03QL



EGP10GPKG23
ERC06-155A
ERC91-02
ERC91-02E
RU-1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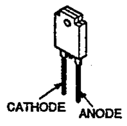
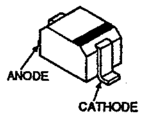
ERC88M-009


CATHODE
ANODE

MA111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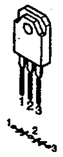
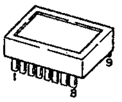
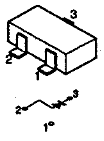


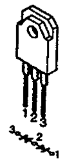
GL-6P202



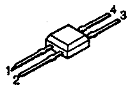
RD10M-B2
RD12M-B2
RD3.6M-B2
RD5.1M-B2
RD6.2M-B2
RD7.5M-B2
RD9.1M-B2



RD10M-T182



SB20-03P-TD



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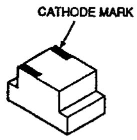
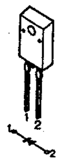
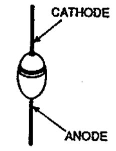
SEC1801C


CATHODE MARK

S16L60



V06C-T52
V11N-T52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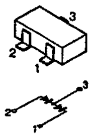
ANODE

1SS123-T1



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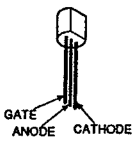

GATE
ANODE
CATHODE

SECTION 5
EXPLODED VIEWS

NOTE :

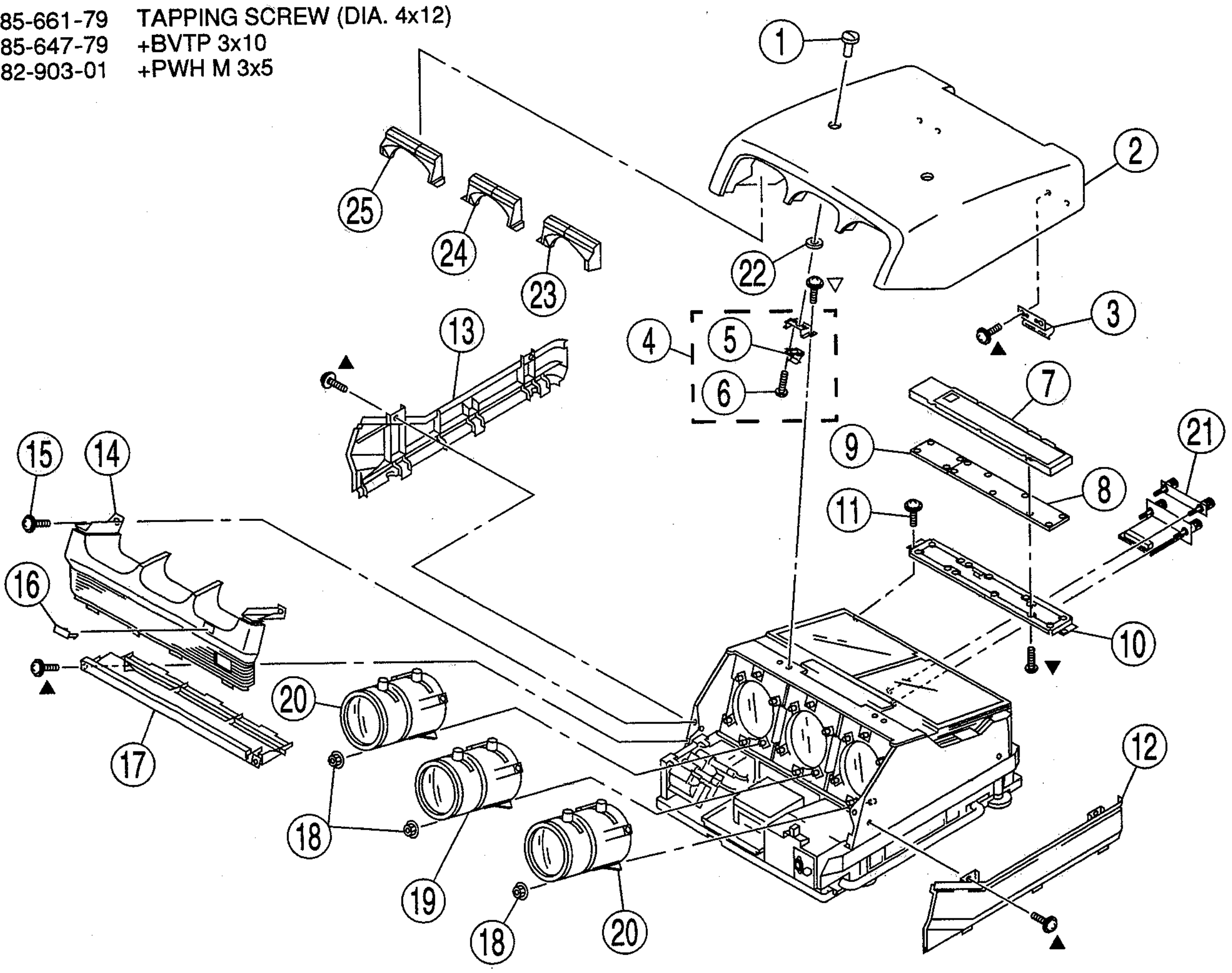
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and marked ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

5-1. COVER, CONTROL PANEL BLOCK

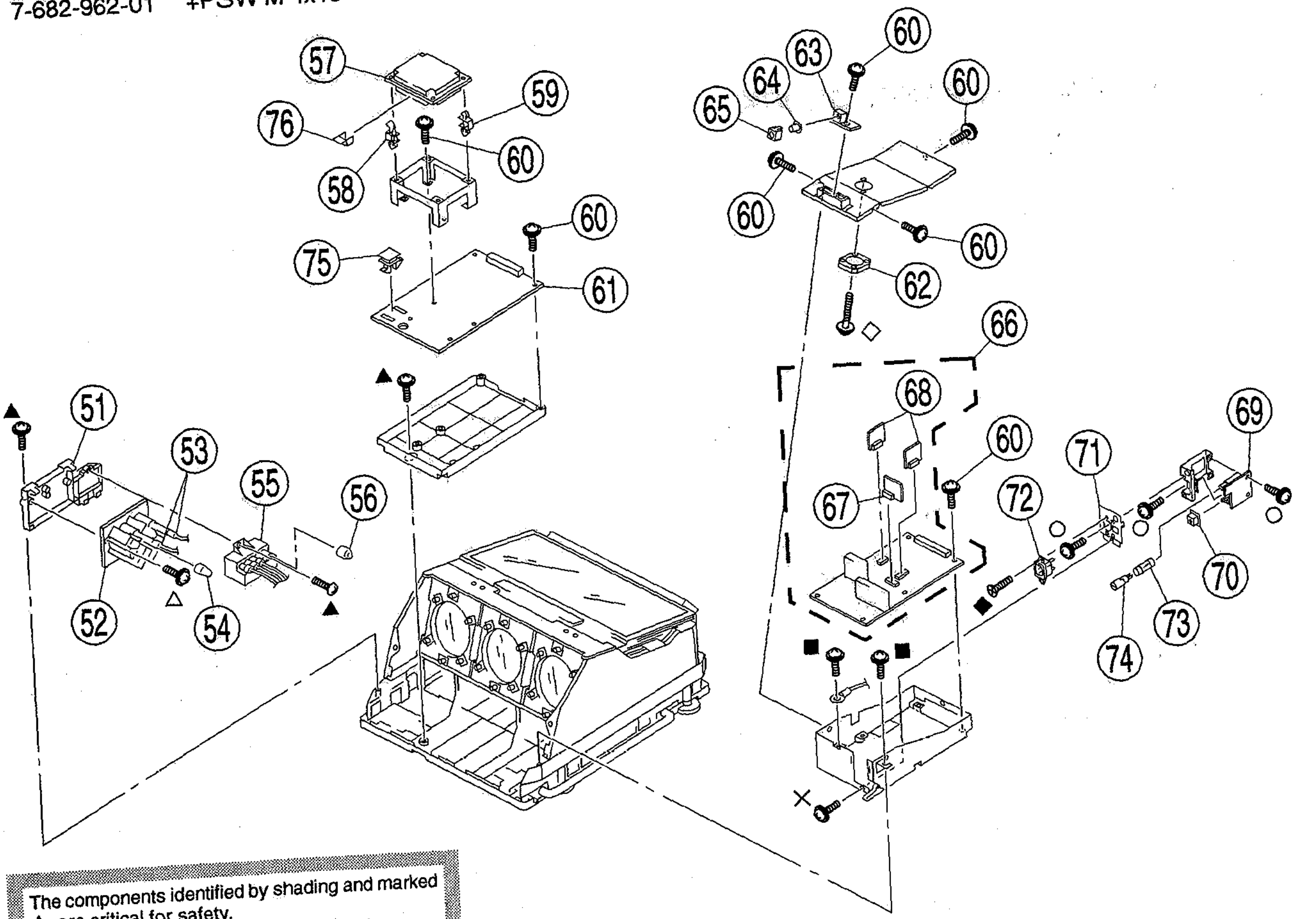
▲ : 7-685-661-79 TAPPING SCREW (DIA. 4x12)
▼ : 7-685-647-79 +BVTP 3x10
▽ : 7-682-903-01 +PWH M 3x5



REF NO.	PART NO.	DESCRIPTION	REMARK
1	4-049-769-01	FASTENER	
2	4-056-519-01	HOOD	
3	4-056-454-01	HINGE, REAR	
4	* X-4034-105-1	HOLDER ASSY, HOOD	
5	* 4-049-776-01	SPRING	5, 6
6	3-695-667-01	SCREW (M2X3)	
7	X-4034-115-1	CONTROL PANEL ASSY	
8	* A-1372-269-A	H MOUNTED PC BOARD	
9	* A-1390-666-A	L MOUNTED PC BOARD	
10	* 4-056-556-01	BRACKET, CONTROL PANEL	
11	3-701-809-31	SCREW, TERMINAL (M 3X8)	
12	4-056-521-01	PANEL (R), SIDE	
13	4-056-522-01	PANEL (L), SIDE	
14	4-056-520-01	PANEL, FRONT	
15	4-047-260-01	SCREW (B)(M 4X15)	
16	4-056-411-01	PLATE (F), INDICATE	
17	* 4-056-523-01	COVER, HV	
18	4-304-511-00	NUT (M5), FLANGE	
19	4-383-089-33	LENS, DELTA HD6	
20	4-383-089-43	LENS, DELTA HD6	
21	* X-4034-102-1	PANEL (MEM) ASSY, REAR	
22	4-049-792-01	WASHER	
23	* 4-056-525-01	CUSHION (FR)	
24	* 4-056-524-01	CUSHION (FC)	
25	* 4-056-526-01	CUSHION (FL)	

5-2. HA, PA, POWER BLOCK

▲ : 7-685-661-79 TAPPING SCREW (DIA. 4x12)
△ : 7-682-950-01 +PSW M 3x12
◇ : 7-682-652-09 +PS M 3x16
○ : 7-682-903-19 +PWH M 3x6
◆ : 7-682-247-09 +K M 3x6
× : 7-682-947-09 +PSW M 3x6
■ : 7-682-962-01 +PSW M 4x10



The components identified by shading and marked ⚠ are critical for safety.
Replace only with part number specified.

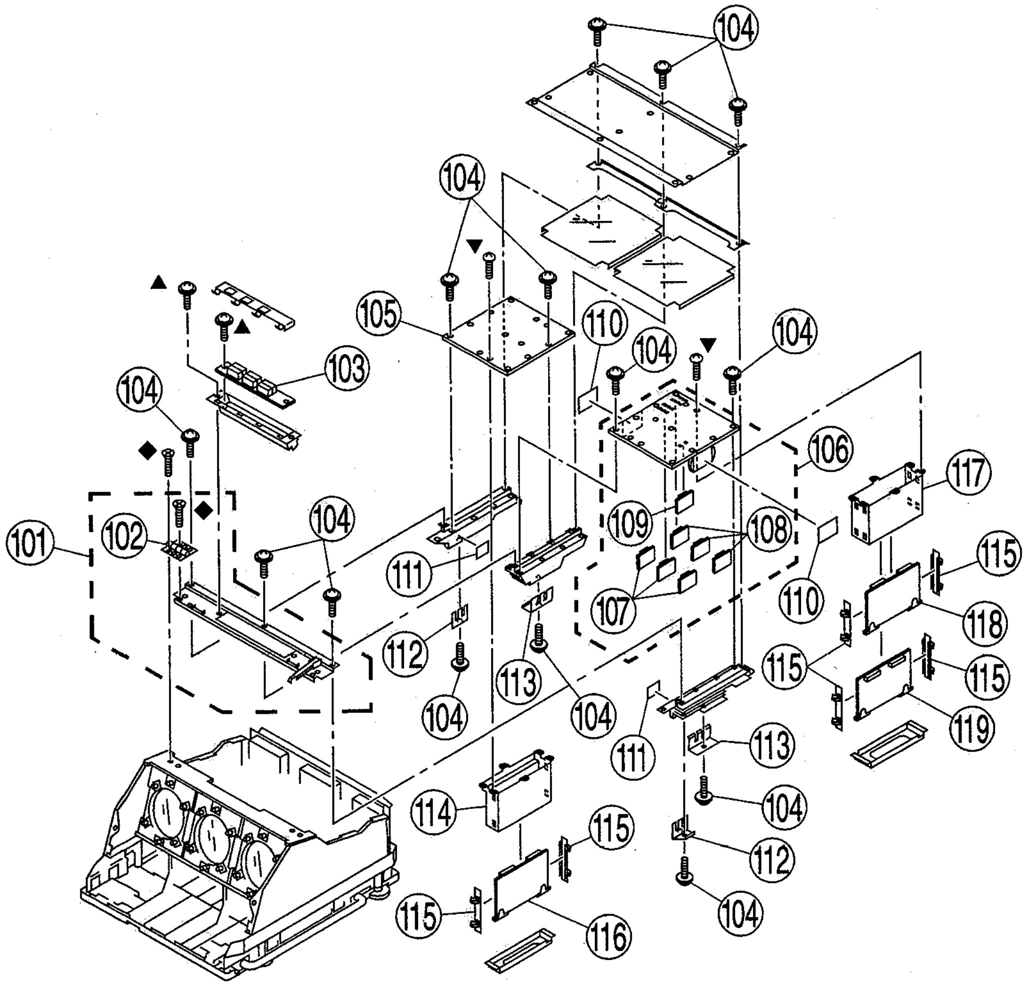
Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

REF NO.	PART NO.	DESCRIPTION	REMARK
51	* 4-056-573-01	HOLDER (FBT)	
52	* A-1190-261-A	PB MOUNTED PCB	
53 ⚠	X-4033-245-2	TRANSFORMER ASSY FLYBACK (NX3031//JIS)	
54	4-042-892-01	CAP, MV	
55 ⚠	1-453-108-31	DC BLOCK, HIGH-VOLTAGE	
56	4-373-137-01	CAP (Z), RUBBER	
57	* A-1380-529-A	K MOUNTED PCB	
58	* 3-703-141-00	HOLDER, PCB	
59	* 4-353-620-02	HINGE, PC BOARD	
60	3-701-809-31	SCREW, TERMINAL (M3X8)	
61	* A-1190-251-A	PA MOUNTED PC BOARD	
62	1-541-950-11	FAN, DC	
63	* A-1390-665-A	N MOUNTED PC BOARD	
64	* 4-374-987-01	GUIDE, LIGHT	
65	* 4-381-686-01	BRACKET (B), BAR, OPTICAL	

REF NO.	PART NO.	DESCRIPTION	REMARK
66	* A-1316-281-A	G COMPLETE PC BOARD	67,68
67	* A-1311-507-A	GB MOUNTED PC BOARD	
68	* A-1311-508-A	GC MOUNTED PC BOARD	
69	* A-1311-509-A	GA MOUNTED PC BOARD	
70	4-362-811-00	BUTTON, MAIN POWER	
71	* 4-056-554-01	PLATE, AC	
72 ⚠	1-251-263-11	INLET, AC	
73 ⚠	1-533-623-11	FUSE, GLASS CYLINDERICAL 10A 250V (D50Q)	
73 ⚠	1-576-233-41	FUSE (H.B.C) T6.15AH 250V (D50QM)	
74	1-533-702-11	HOLDER, FUSE	
75	1-416-134-11	COIL, PICK UP	
76	4-057-411-01	COVER, SWITCH	

5-2. DE BLOCK

▲ : 7-685-661-79 TAPPING SCREW (DIA. 4x12)
▼ : 7-685-647-79 +BVTP 3x10
◆ : 7-682-247-09 +K M 3x6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116

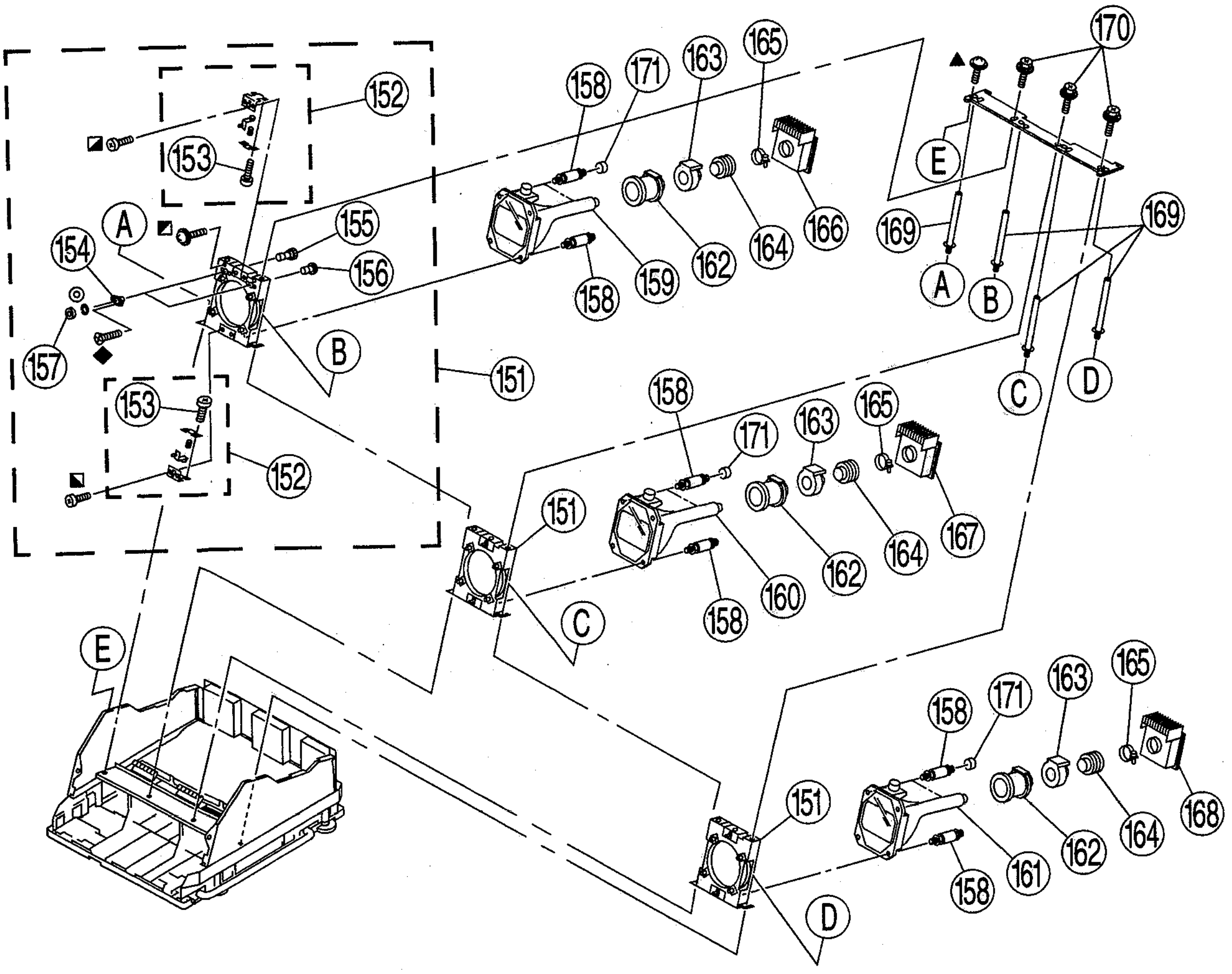
REF NO.	PART NO.	DESCRIPTION	REMARK
101	* X-4034-116-1	STAY ASSY, MAIN	102
102	4-056-010-01	HINGE (T)	
103	* A-1343-173-A	EB MOUNTED PC BOARD	
104	3-701-809-31	SCREW, TERMINAL (M3X8)	
105	* A-1346-524-A	E COMPLETE PC BOARD	
106	* A-1346-521-A	D COMPLETE PC BOARD	107-109
107	* A-1343-175-A	DFH MOUNTED PC BOARD	
108	* A-1343-176-A	DFV MOUNTED PC BOARD	
109	* A-1343-251-A	DP MOUNTED PC BOARD	
110	4-056-422-01	SHEET (D), INSULATOR	
111	4-393-406-01	SHEET (R), RADIATION	
112	* 4-395-528-01	HOLDER (C), TR	
113	* 4-056-461-01	HOLDER (D), TR	
114	* 4-056-564-01	HOLDER (EA)	
115	* 4-360-309-11	SUPPORT, PC BOARD	
116	* A-1346-525-A	EA COMPLETE PC BOARD	
117	* 4-056-563-01	HOLDER (DA)	
118	* A-1346-522-A	DA COMPLETE PC BOARD	
119	* A-1346-523-A	DB COMPLETE PC BOARD	

5-4. PICTURE TUBE BLOCK

▲ : 7-685-661-79 TAPPING SCREW (DIA. 4x12)
◆ : 7-682-247-09 +K M 3x6
◩ : 7-682-904-31 +PWH M 4x12
◪ : 7-682-647-09 +PSW M 3x6
◎ : 7-624-111-04 TYPE-E STOP RING 7.0

The components identified by shading and marked ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.



152
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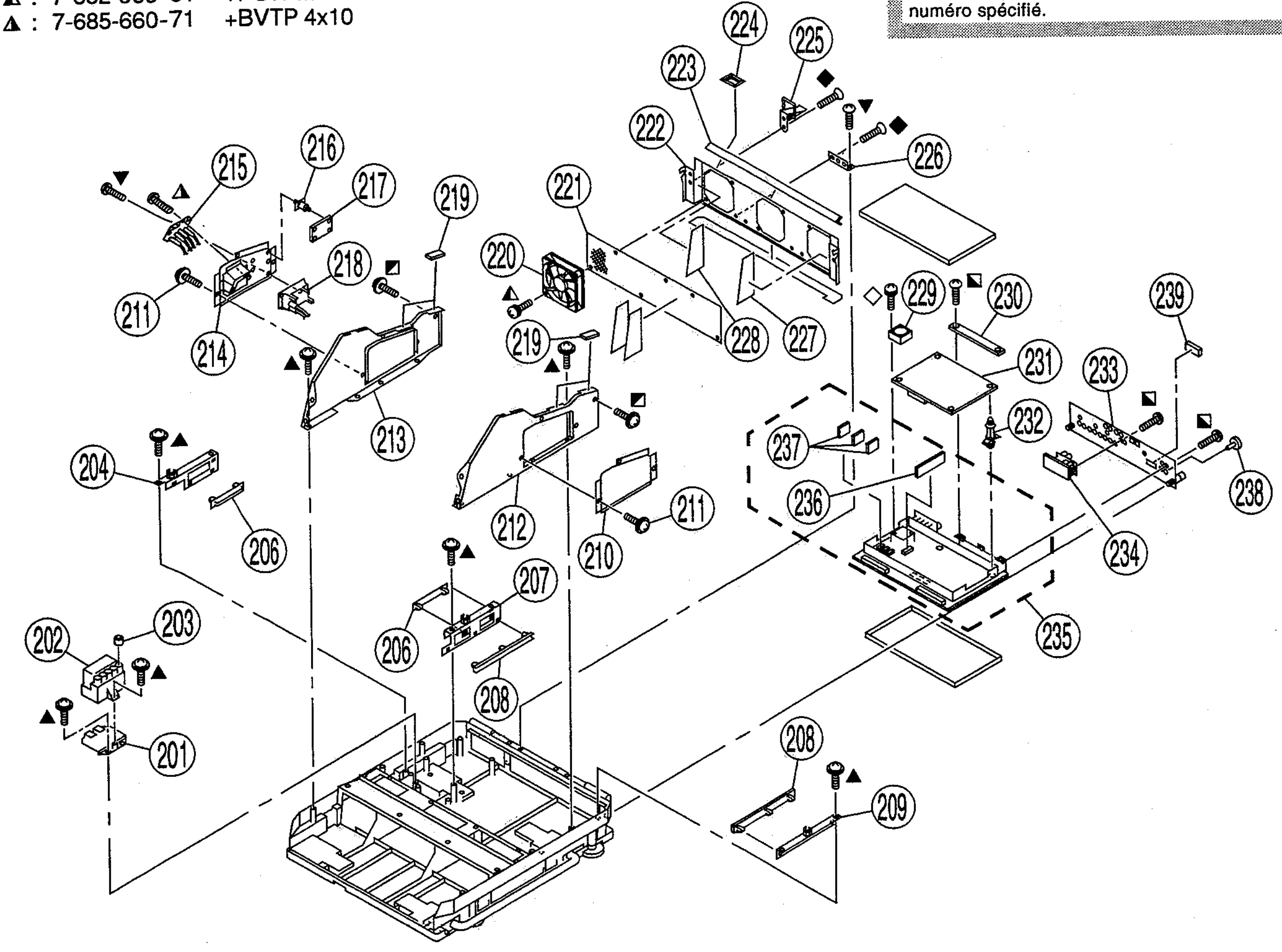
REF NO.	PART NO.	DESCRIPTION	REMARK
151	X-4034-113-1	HOLDER ASSY, LENS	152, 154-157
152	X-4034-109-1	PIN ASSY	153
153	3-695-667-01	SCREW (M 2X3)	
154	* 4-056-434-01	HOLDER (A)	
155	* 4-056-463-01	GEAR (R)	
156	* 4-056-464-01	GEAR (L)	
157	4-056-898-01	LOCK, GEAR	
158	X-4034-101-1	BOLT ASSY	
159 ⚠	8-733-466-05	PICTURE TUBE (B) (07MT3)	
160 ⚠	8-733-465-05	PICTURE TUBE (G) (07MT3)	
161 ⚠	8-733-467-07	PICTURE TUBE (R) (07MT3)	
162 ⚠	1-451-450-11	DEFLECTION YOKE (Y636PF)	
163 ⚠	1-452-883-11	NECK ASSEMBLY (NA-3616A)	
164 ⚠	1-452-429-31	NECK ASSY, CRT (NA366)	
165	X-4378-637-1	BAND ASSY	
166	* A-1331-581-A	CB MOUNTED PC BOARD	
167	* A-1331-580-A	CG MOUNTED PC BOARD	
168	* A-1331-579-A	CR MOUNTED PC BOARD	
169	4-056-426-03	POLE, CRT	
170	4-056-110-01	SCREW, SW HEXAGON HEAD M5X12	
171	4-055-951-01	CAP, SAFETY	

5-5. FOCUS, HVF, FAN, A BLOCK

▲ : 7-685-661-79 TAPPING SCREW (DIA. 4x12)
▼ : 7-685-647-79 +BVTP M 3x10
◆ : 7-682-247-09 +K M 3x6
◇ : 7-682-652-09 +PS M 3x16
◩ : 7-682-904-31 +PWH M 4x12
◪ : 7-685-646-79 +BVTP 3x8
▲ : 7-682-969-01 +PSW M 4x35
▲ : 7-685-660-71 +BVTP 4x10

The components identified by shading and marked ⚠ are critical for safety.
Replace only with part number specified.

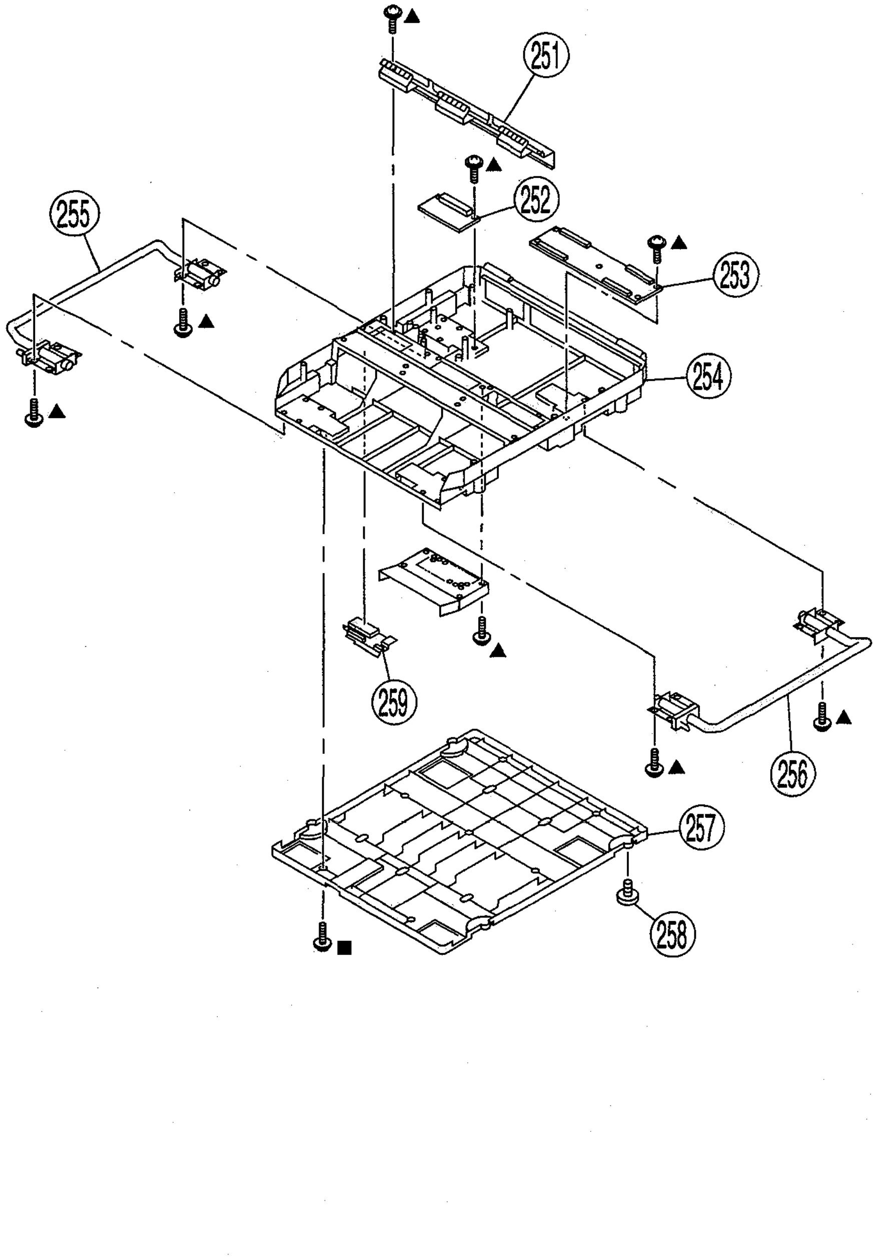
Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.



REF NO.	PART NO.	DESCRIPTION	REMARK
201	* 4-056-574-01	BRACKET, HV-B	
202 ⚠	1-453-108-11	DC BLOCK, HIGH-VOLTAGE	
203	4-373-137-01	CAP (Z), RUBBER	
204	* 4-056-459-01	HOLDER (IFB)	
206	* 4-360-309-11	SUPPORT, PC BOARD	
207	* 4-056-529-01	HOLDER (AL)	
208	4-055-970-21	RAIL (S), PC BOARD GUIDE	
209	* 4-056-439-01	HOLDER (AR)	
210	* 4-056-539-01	BRACKET, IDTV	
211	3-701-809-31	SCREW, TERMINAL (M3X8)	
212	* X-4034-170-1	CHASSIS (R) ASSY, SIDE	
213	* X-4034-171-1	CHASSIS (L) ASSY, SIDE	
214	* 4-056-575-01	HOLDER (FP)	
215 ⚠	8-598-980-00	HV BLOCK ASSY, HVB-910	
216	* 3-703-353-02	SUPPORT, PC BOARD	
217	* A-1331-632-A	CF MOUNTED PC BOARD	
218 ⚠	1-225-401-11	RES ASSY, HIGH-VOLTAGE	
219	* 4-057-441-01	GASKET (S)	
220	1-698-341-11	FAN, DC	
221	* 4-057-353-01	NET, FAN	
222	* 4-056-576-01	BRACKET, FAN	
223	* 4-057-442-01	GASKET (TR)	
224	* 4-056-414-01	BUSHING, SQUARE	
225	* 4-056-420-01	LOCK, P	
226	* 4-056-424-01	HINGE	
227	* 4-057-697-01	DUCT (SR)	
228	* 4-057-696-01	DUCT (SL)	
229	1-698-059-11	FAN, DC	
230	* A-1293-356-A	AB MOUNTED PC BOARD	
231	* A-1394-801-A	Y COMPLETE PC BOARD	
233	* X-4034-114-1	PANEL (A) ASSY, REAR	
234	* A-1293-354-A	AA MOUNTED PC BOARD	
235	* A-1297-895-A	A COMPLETE PC BOARD	236, 237
236	* A-1293-524-A	AC MOUNTED PC BOARD	
237	* A-1293-525-A	AD MOUNTED PC BOARD	
238	3-728-267-01	COVER, 3.5 JACK	
239	3-673-948-11	CAP, DUST	

5-6. BASE BLOCK

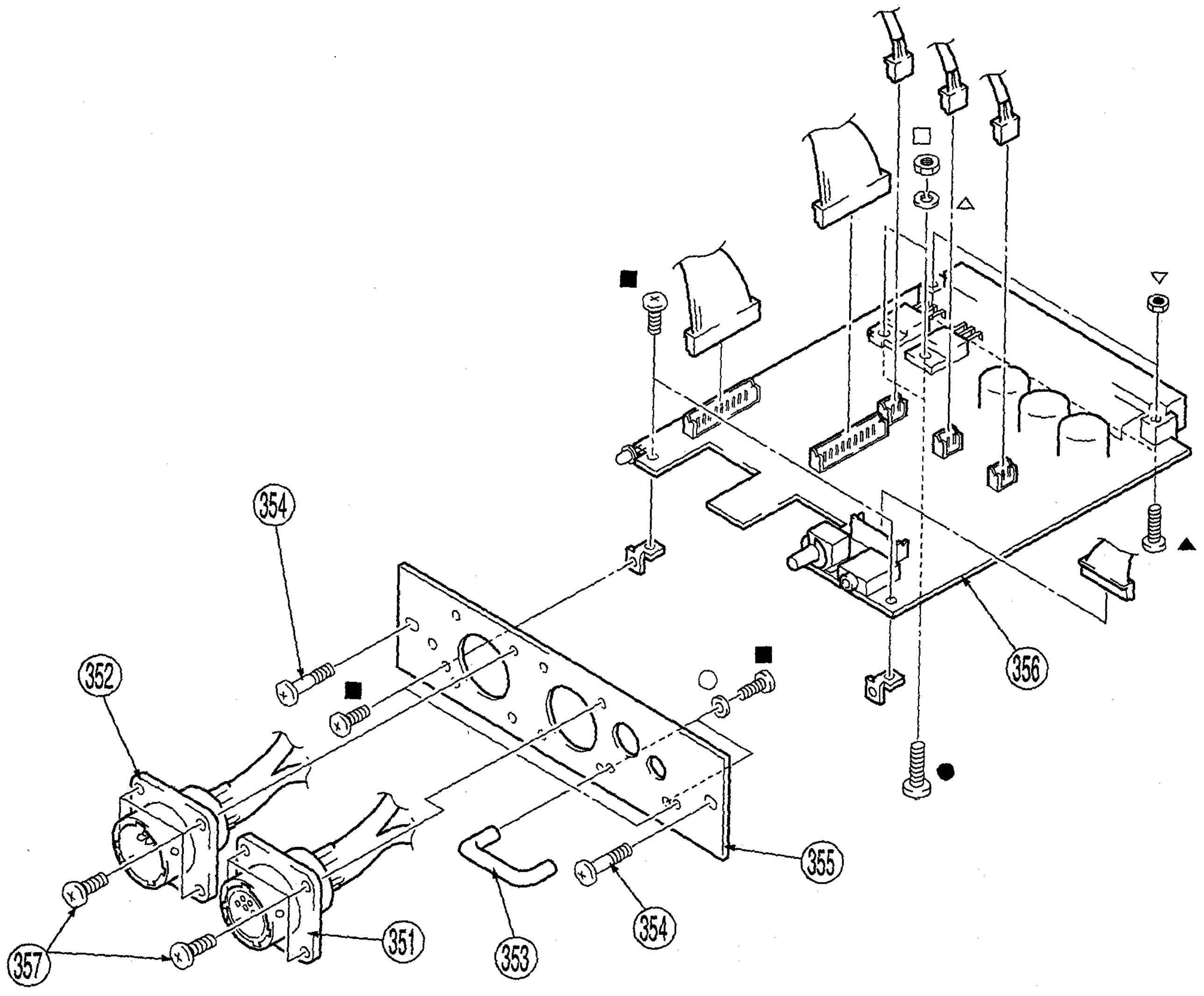
▲ : 7-685-661-79 TAPPING SCREW (DIA. 4x12)
■ : 7-685-663-79 TAPPING SCREW (DIA. 4x16)



REF NO.	PART NO.	DESCRIPTION	REMARK
251	* 4-056-535-01	BRACKET, HARNESS	
252	* A-1270-372-A	QM MOUNTED PC BOARD	
253	* A-1304-103-A	M MOUNTED PC BOARD	
254	* 4-056-538-01	BASE (ADC)	
255	* 4-056-528-01	HANDLE (L)	
256	* 4-056-527-01	HANDLE (R)	
257	4-056-533-01	BASE	
258	4-056-043-01	ADJUSTOR	
259	* 4-056-577-01	COVER (HVF)	

5-7. IFB-40 BLOCK

● : 7-682-149-01 +P M3x10
■ : 7-621-773-95 +P M2.6x6 (BLACK)
▲ : 7-621-773-87 +P M2.6x10
○ : 7-623-207-22 WASHER (2.6)
□ : 7-684-023-04 NUT (M3)
△ : 7-623-208-22 WASHER (3.0)
▽ : 7-622-207-05 NUT (2.6)



REF NO.	PART NO.	DESCRIPTION	REMARK
351	9-939-544-01	CONNECTOR (FEMALE) (14P)	
352	9-939-543-01	CONNECTOR (MALE) (14P)	
353	4-032-851-01	HANDLE	
354	9-939-576-01	SCREW	
355	9-939-548-01	PANEL (IFB-40)	
356	9-939-547-012	IFB-40 MOUNTED PC BOARD	
357	9-939-545-01	SCREW +BV 3x8 (BLACK)	

SECTION 6
ELECTRICAL PARTS LIST

A

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

CAPACITORS
- PF : μμF

When indicating parts by reference number, please include the board name.

- The components identified by ⊠ in this manual have been carefully factory-selected for each set in order ot satisfy regulations regarding X-rey rediation.
  Should replacement be required, replace only with the value originally used.
- There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please include the board name.

REF NO.	PART NO.	DESCRIPTION			REMARK
	* A-1297-895-A	A COMPLETE PC BOARD (Include AC, AD and BH Mounted PC BOARD) **************************************			
	* 1-526-659-00	SOCKET, IC (DP) 28P			
	* 1-526-660-21	SOCKET, IC (DP) 32P			
	1-562-579-21	RECEPTACLE, CONNECTOR 2P (CN1001-CN1006)			
	* 3-703-353-07	SUPPORT, PC BOARD			
	3-899-248-11	SCREW (M3X8)			
	4-904-679-01	HEAT SINK (IC)			
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)			
		< CAPACITOR >			
C1	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C2	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C3	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C4	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C5	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C6	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C7	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V
C8	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C9	1-128-594-11	ELECT CHIP	1MF	20%	50V
C10	1-126-401-11	ELECT CHIP	1MF	20%	50V
C11	1-126-603-11	ELECT CHIP	4.7MF	20%	16V
C12	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C13	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C14	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C15	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V
C16	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C17	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C18	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C22	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C23	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C100	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C101	1-163-089-00	CERAMIC CHIP	6PF	0.5PF	50V
C104	1-128-416-11	ELECT CHIP	100MF	20%	16V
C105	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C106	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C107	1-128-416-11	ELECT CHIP	100MF	20%	16V
C108	1-128-004-11	ELECT CHIP	10MF	20%	16V
C109	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C111	1-126-603-11	ELECT	4.7MF	20%	35V
C112	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C113	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C114	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C115	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C116	1-128-451-11	ELECT CHIP	22MF	20%	16V
C117	1-126-204-11	ELECT	47MF	20%	16V
C118	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C119	1-128-004-11	ELECT CHIP	10MF	20%	16V
C120	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C121	1-128-004-11	ELECT CHIP	10MF	20%	16V
C123	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C125	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C126	1-128-004-11	ELECT CHIP	10MF	20%	16V
C128	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C129	1-126-204-11	ELECT	47MF	20%	16V
C130	1-126-204-11	ELECT	47MF	20%	16V
C131	1-126-204-11	ELECT	47MF	20%	16V
C132	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C137	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C138	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C139	1-126-204-11	ELECT	47MF	20%	16V
C150	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C171	1-128-004-11	ELECT CHIP	10MF	20%	16V
C172	1-128-004-11	ELECT CHIP	10MF	20%	16V
C173	1-124-778-00	ELECT	22MF	20%	6.3V
C174	1-124-778-00	ELECT	22MF	20%	6.3V
C175	1-124-778-00	ELECT	22MF	20%	6.3V
C200	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C201	1-163-096-00	CERAMIC CHIP	13PF	5%	50V
C202	1-163-096-00	CERAMIC CHIP	13PF	5%	50V
C203	1-126-204-11	ELECT	47MF	20%	16V
C204	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C205	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C206	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C207	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C208	1-164-346-11	CERAMIC CHIP	1MF		16V
C209	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V
C210	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C211	1-163-096-00	CERAMIC CHIP	13PF	5%	50V
C212	1-126-191-11	ELECT	0.47MF	20%	50V
C213	1-128-416-11	ELECT CHIP	100MF	20%	16V
C214	1-128-416-11	ELECT CHIP	100MF	20%	16V
C215	1-128-416-11	ELECT CHIP	100MF	20%	16V

A

REF NO.	PART NO.	DESCRIPTION				REMARK
C216	1-163-235-11	CERAMIC CHIP	22PF	2%	50V	
C218	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C219	1-126-935-11	ELECT	470MF	20%	16V	
C221	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C222	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C223	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C224	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C225	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C226	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C227	1-126-204-11	ELECT	47MF	20%	16V	
C230	1-126-398-11	ELECT CHIP	4.7MF	20%	35V	
C234	1-126-398-11	ELECT CHIP	4.7MF	20%	35V	
C235	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C240	1-104-607-11	ELECT CHIP	47MF	20%	16V	
C241	1-126-603-11	ELECT	4.7MF	20%	35V	
C247	1-126-603-11	ELECT	4.7MF	20%	35V	
C248	1-104-607-11	ELECT CHIP	47MF	20%	16V	
C249	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C253	1-126-401-11	ELECT CHIP	1MF	20%	50V	
C254	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C255	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C257	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C258	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C259	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C260	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C261	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C262	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C263	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C264	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C300	1-104-607-11	ELECT CHIP	47MF	20%	16V	
C301	1-104-607-11	ELECT CHIP	47MF	20%	16V	
C302	1-104-607-11	ELECT CHIP	47MF	20%	16V	
C303	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	
C304	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	
C305	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	
C306	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C308	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C309	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C310	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C311	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C312	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	
C313	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	
C314	1-126-401-11	ELECT CHIP	1MF	20%	50V	
C315	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C316	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	
C317	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C318	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C320	1-126-204-11	ELECT	47MF	20%	16V	
C400	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C401	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C402	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C403	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C404	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C405	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C409	1-126-204-11	ELECT	47MF	20%	16V	
C410	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C411	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C412	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	

REF NO.	PART NO.	DESCRIPTION				REMARK
C450	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C451	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C460	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1001	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1002	1-128-453-21	ELECT CHIP	47MF	20%	6.3V	
C1003	1-128-453-21	ELECT CHIP	47MF	20%	6.3V	
C1004	1-128-453-21	ELECT CHIP	47MF	20%	6.3V	
C1005	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1007	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1010	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1011	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1012	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1013	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1014	1-163-245-11	CERAMIC CHIP	56PF	5%	50V	
C1015	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1016	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1017	1-128-453-21	ELECT CHIP	47MF	20%	6.3V	
C1018	1-128-453-21	ELECT CHIP	47MF	20%	6.3V	
C1019	1-128-453-21	ELECT CHIP	47MF	20%	6.3V	
C1020	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1021	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1022	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1024	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1025	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1026	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1027	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1028	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1029	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1030	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1031	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1032	1-126-204-11	ELECT	47MF	20%	16V	
C1033	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1034	1-126-204-11	ELECT	47MF	20%	16V	
C1035	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1036	1-136-177-00	FILM	1MF	5%	50V	
C1037	1-136-177-00	FILM	1MF	5%	50V	
C1038	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1039	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1040	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1041	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1042	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1043	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1044	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1045	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1046	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1047	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1048	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1049	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1050	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C1055	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1056	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C1057	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C1058	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1059	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C1060	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C1061	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C1062	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C1063	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1064	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	

REF NO.	PART NO.	DESCRIPTION				REMARK
C1065	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1066	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1067	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1068	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1069	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1071	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1072	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1073	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1074	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1075	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1076	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1077	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1078	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1079	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1080	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1081	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1082	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C1083	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C1084	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C1085	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C1086	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1087	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1088	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1089	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1090	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1091	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1092	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1093	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1094	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1095	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1096	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1097	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C1098	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1099	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1100	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1101	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1102	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1103	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C1104	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C1105	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C1106	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C1107	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C1108	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1109	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1110	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1111	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1112	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1113	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1114	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1115	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1116	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1117	1-126-941-11	ELECT	470MF	20%	25V	
C1118	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1119	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1120	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1121	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1122	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1123	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1124	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1125	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1126	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1127	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1128	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1129	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1130	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1131	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1133	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1134	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1135	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1136	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1137	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1138	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V	
C1139	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1140	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1141	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V	
C1142	1-126-401-11	ELECT CHIP	1MF	20%	50V	
C1143	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1144	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1145	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1146	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1147	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1148	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1149	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1150	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1151	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1152	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1153	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1154	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1155	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1156	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1157	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1158	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C1159	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1160	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1161	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1162	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1163	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1164	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1165	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1166	1-128-357-11	ELECT CHIP	10MF	20%	16V	
C1167	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1168	1-126-235-11	ELECT	100MF	20%	10V	
C1169	1-128-595-11	ELECT CHIP	2.2MF	20%	50V	
C1170	1-128-595-11	ELECT CHIP	2.2MF	20%	50V	
C1171	1-128-595-11	ELECT CHIP	2.2MF	20%	50V	
C1172	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1173	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1174	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1175	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1176	1-109-982-11	CERAMIC CHIP	1MF	10%	10V	
C1191	1-126-401-11	ELECT CHIP	1MF	20%	50V	
C1199	1-126-933-11	ELECT	100MF	20%	16V	
C1200	1-107-418-11	ELECT CHIP	10MF	20%	35V	
C1201	1-107-418-11	ELECT CHIP	10MF	20%	35V	
C1202	1-107-418-11	ELECT CHIP	10MF	20%	35V	
C1203	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	

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REF NO.	PART NO.	DESCRIPTION				REMARK
C1204	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1205	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1206	1-126-401-11	ELECT CHIP	1MF	20%	50V	
C1207	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C1208	1-115-870-11	ELECT	0.47MF			50V
C1209	1-115-870-11	ELECT	0.47MF			50V
C1210	1-115-870-11	ELECT	0.47MF			50V
C1300	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1301	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C1302	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1315	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V	
C1316	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1317	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1318	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1319	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1322	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1323	1-107-418-11	ELECT CHIP	10MF	20%	35V	
C1324	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1325	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1415	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V	
C1416	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1417	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1418	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1419	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1422	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1423	1-107-418-11	ELECT CHIP	10MF	20%	35V	
C1424	1-107-418-11	ELECT CHIP	10MF	20%	35V	
C1515	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V	
C1516	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1517	1-126-394-11	ELECT CHIP	10MF	20%	16V	
C1518	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1519	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1522	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C1523	1-107-418-11	ELECT CHIP	10MF	20%	35V	
C2001	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2002	1-128-393-11	ELECT	100MF	20%	10V	
C2003	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2004	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2005	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2006	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C2007	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C2008	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2009	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C2010	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2011	1-126-204-11	ELECT	47MF	20%	16V	
C2012	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C2013	1-126-204-11	ELECT	47MF	20%	16V	
C2014	1-128-393-11	ELECT	100MF	20%	10V	
C2015	1-163-231-11	CERAMIC CHIP	15PF	5%	50V	
C2016	1-163-231-11	CERAMIC CHIP	15PF	5%	50V	
C2017	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C2018	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2019	1-126-204-11	ELECT	47MF	20%	16V	
C2020	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C2021	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2022	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2023	1-126-401-11	ELECT CHIP	1MF	20%	50V	
C2024	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2025	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2026	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2027	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C2028	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2030	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C2031	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2032	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2033	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2034	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2035	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2036	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2037	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2038	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2200	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2201	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2202	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2203	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2204	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2205	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2206	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2207	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2208	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2209	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C2210	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C3000	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C3001	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C3002	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C3003	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C3004	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C3005	1-163-231-11	CERAMIC CHIP	15PF	5%	50V	
C3006	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C3007	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
C3008	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C3009	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C3010	1-163-099-00	CERAMIC CHIP	18PF	5%	50V	
C3011	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
C3012	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C3013	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C3014	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C3015	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C3016	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C3017	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C3018	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C3019	1-128-004-11	ELECT CHIP	10MF	20%	16V	
C3020	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
C3021	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C4000	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C4002	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C4004	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C4005	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C4012	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C4013	1-163-231-11	CERAMIC CHIP	15PF	5%	50V	
C4014	1-163-231-11	CERAMIC CHIP	15PF	5%	50V	
C4017	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C4018	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C4019	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C4020	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C4021	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C4022	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C4023	1-163-031-11	CERAMIC CHIP	0.01MF		50V	

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REF NO.	PART NO.	DESCRIPTION	REMARK
C4024	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C4200	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
		< CONNECTOR>	
CN3	1-564-511-11	PLUG, CONNECTOR 8P	
CN4	* 1-764-790-11	SOCKET, CONNECTOR 80P	
CN1001	* 1-564-948-21	PIN, CONNECTOR 3P	
CN1002	* 1-564-948-21	PIN, CONNECTOR 3P	
CN1003	* 1-564-948-21	PIN, CONNECTOR 3P	
CN1004	* 1-564-948-21	PIN, CONNECTOR 3P	
CN1005	* 1-564-948-21	PIN, CONNECTOR 3P	
CN1006	* 1-564-948-21	PIN, CONNECTOR 3P	
CN1008	1-774-414-11	CONNECTOR, BOARD TO BOARD 20P	
CN1010	* 1-774-249-11	CONNECTOR, BOARD TO BOARD 10P	
CN1011	* 1-774-249-11	CONNECTOR, BOARD TO BOARD 10P	
CN1012	* 1-774-249-11	CONNECTOR, BOARD TO BOARD 10P	
CN1013	1-564-505-11	PLUG, CONNECTOR 2P	
CN4001	* 1-564-515-11	PLUG, CONNECTOR 12P	
		< DIODE >	
D100	8-719-801-78	DIODE 1SS184	
D200	8-719-914-43	DIODE DAN202K	
D400	8-719-801-78	DIODE 1SS184	
D1001	8-719-800-76	DIODE 1SS226	
D1002	8-719-800-76	DIODE 1SS226	
D1003	8-719-801-78	DIODE 1SS184	
D1004	8-719-801-78	DIODE 1SS184	
D1005	8-719-801-78	DIODE 1SS184	
D1006	8-719-800-76	DIODE 1SS226	
D1007	8-719-800-76	DIODE 1SS226	
D1008	8-719-800-76	DIODE 1SS226	
D1009	8-719-801-78	DIODE 1SS184	
D1010	8-719-801-78	DIODE 1SS184	
D1011	8-719-801-78	DIODE 1SS184	
D1012	8-719-801-78	DIODE 1SS184	
D1013	8-719-800-76	DIODE 1SS226	
D1200	8-719-800-76	DIODE 1SS226	
D1201	8-719-800-76	DIODE 1SS226	
D1202	8-719-800-76	DIODE 1SS226	
D1203	8-719-801-78	DIODE 1SS184	
D2000	8-719-106-08	DIODE RD6.2M-B2	
D2001	8-719-510-02	DIODE D1NS4	
D2002	8-719-106-17	DIODE RD6.8M-B2	
D2003	8-719-801-78	DIODE 1SS184	
D2004	8-719-801-78	DIODE 1SS184	
D2005	8-719-974-51	DIODE SB20-03P	
D2007	8-719-801-78	DIODE 1SS184	
D2008	8-719-801-78	DIODE 1SS184	
D2009	8-719-801-78	DIODE 1SS184	
D2010	8-719-106-08	DIODE RD6.2M-B2	
D2011	8-719-106-08	DIODE RD6.2M-B2	
D2012	8-719-404-49	DIODE MA111	
D2013	8-719-404-49	DIODE MA111	
D2200	8-719-109-93	DIODE RD6.2ESB2	
D2201	8-719-109-93	DIODE RD6.2ESB2	
D2202	8-719-109-93	DIODE RD6.2ESB2	
D2203	8-719-105-82	DIODE RD5.1M-B2	
D2204	8-719-105-82	DIODE RD5.1M-B2	
D2205	8-719-105-82	DIODE RD5.1M-B2	
D2206	8-719-801-78	DIODE 1SS184	
D2207	8-719-106-17	DIODE RD6.8M-B2	
D3000	8-719-801-78	DIODE 1SS184	
D4007	8-719-109-93	DIODE RD6.2ESB2	
D4008	8-719-109-93	DIODE RD6.2ESB2	
D4009	8-719-109-93	DIODE RD6.2ESB2	
D4010	8-719-109-93	DIODE RD6.2ESB2	
D4011	8-719-109-93	DIODE RD6.2ESB2	
D4012	8-719-109-93	DIODE RD6.2ESB2	
D4013	8-719-109-93	DIODE RD6.2ESB2	
D4014	8-719-109-93	DIODE RD6.2ESB2	
D4024	8-719-801-78	DIODE 1SS184	
D4025	8-719-109-93	DIODE RD6.2ESB2	
		< FILTER >	
FL100	1-239-397-11	FILTER, LOW PASS	
FL101	1-239-397-11	FILTER, LOW PASS	
FL102	1-239-397-11	FILTER, LOW PASS	
		< IC >	
IC1	8-752-073-52	IC CXA2016S	
IC2	8-759-008-45	IC MC74HC4538F	
IC3	8-759-927-72	IC TL1591CP	
IC4	8-759-926-18	IC SN74HC157ANS	
IC5	8-759-926-18	IC SN74HC157ANS	
IC6	8-759-175-04	IC PCF8574T-T	
IC7	8-759-175-04	IC PCF8574T-T	
IC8	8-759-926-18	IC SN74HC157ANS	
IC9	8-759-035-93	IC SC7S32F	
IC100	8-759-711-62	IC NJM2240M	
IC101	8-759-710-29	IC NJM2235M	
IC102	8-752-372-78	IC CXD2024AQ	
IC103	8-752-068-45	IC CXA1855Q	
IC200	8-759-295-47	IC TDA9141-N2C	
IC201	8-759-288-85	IC TDA4665T-T	
IC202	8-759-335-58	IC MM1112XFF	
IC204	8-759-335-58	IC MM1112XFF	
IC206	8-759-011-65	IC MC74HC4053F	
IC207	8-752-052-77	IC CXA1450M	
IC208	8-752-052-77	IC CXA1450M	
IC209	8-752-052-77	IC CXA1450M	
IC300	8-752-072-88	IC CXA2011Q	
IC301	8-759-082-57	IC TC7W04FU	
IC400	8-752-070-54	IC CXA1839Q-T6	
IC401	8-759-058-62	IC TC7S08FU(TE85R)	
IC1001	8-759-448-65	IC EL2186CS-TE2	
IC1002	8-759-448-65	IC EL2186CS-TE2	
IC1003	8-759-448-65	IC EL2186CS-TE2	
IC1004	8-759-457-53	IC GS1881-CTA	
IC1006	8-759-103-09	IC µPC4082G2	
IC1007	8-759-710-27	IC NJM084M	
IC1008	8-759-092-82	IC SN75157PS-ELL2000	
IC1009	8-752-072-94	IC CXA1875AM-T4	
IC1010	8-759-710-78	IC NJM082BM-T1	
IC1011	8-752-052-77	IC CXA1450M	
IC1012	8-752-052-77	IC CXA1450M	
IC1013	8-752-052-77	IC CXA1450M	
IC1014	8-759-431-38	IC MAX4121CSA-TE2	

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REF NO.	PART NO.	DESCRIPTION	REMARK
IC1015	8-759-431-38	IC MAX4121CSA-TE2	
IC1016	8-759-431-38	IC MAX4121CSA-TE2	
IC1017	8-752-072-94	IC CXA1875AM-T4	
IC1018	8-752-072-94	IC CXA1875AM-T4	
IC1019	8-759-103-09	IC µPC4082G2	
IC1020	8-759-431-38	IC MAX4121CSA-TE2	
IC1021	8-759-431-38	IC MAX4121CSA-TE2	
IC1022	8-759-431-38	IC MAX4121CSA-TE2	
IC1023	8-759-058-58	IC TC7S04FU(TE85R)	
IC1024	8-759-247-67	IC LM2990T-5.0	
IC1025	8-759-929-65	IC LM7912CT	
IC1026	8-759-231-58	IC TA7812S	
IC1027	8-759-231-58	IC TA7812S	
IC1028	8-759-144-82	IC µPC2405HF	
IC1029	8-752-075-54	IC CXA3069S	
IC1030	8-759-436-35	IC LM1282N	
IC1031	8-759-431-39	IC MAX8213BCSE-TE2	
IC1032	8-759-701-59	IC NJM78M09FA	
IC1033	8-759-925-72	IC SN74HC02ANS	
IC1034	8-759-062-66	IC TC7S66F	
IC1036	8-759-926-24	IC SN74HC164ANS	
IC1037	8-759-431-38	IC MAX4121CSA-TE2	
IC1038	8-759-431-38	IC MAX4121CSA-TE2	
IC1039	8-759-431-38	IC MAX4121CSA-TE2	
IC1040	8-759-981-48	IC TL082M	
IC1041	8-759-062-66	IC TC7S66F	
IC1042	8-759-242-64	IC TC4W53F	
IC1043	8-759-035-93	IC SC7S32F	
IC1044	8-759-035-93	IC SC7S32F	
IC1045	8-759-035-93	IC SC7S32F	
IC1301	8-759-431-40	IC EL2160CN	
IC1401	8-759-431-40	IC EL2160CN	
IC1501	8-759-431-40	IC EL2160CN	
IC2000	8-759-235-31	IC TC74HC14AF(EL)	
IC2001	8-759-162-80	IC MM1170BFB	
IC2002	8-759-445-10	IC CY7C136-55JC-TEL	
IC2003	8-752-072-94	IC CXA1875AM-T4	
IC2004	8-759-035-93	IC SC7S32F	
IC2005	8-759-421-41	IC HD6433337WA08F	
IC2006	8-759-430-34	IC MAX762CSA-TE2	
IC2007	8-759-235-31	IC TC74HC14AF(EL)	
IC2008	8-759-925-85	IC SN74HC32ANS	
IC2009	8-759-259-77	IC PQ20VZ5U	
IC2011	8-759-435-39	IC HN58C1001P-15	
IC2012	8-759-925-90	IC SN74HC74ANS	
IC2013	8-759-460-36	IC PC74HCT08D-T	
IC2014	8-759-237-71	IC TC74HC573AF(EL)	
IC2015	8-759-430-28	IC HM6264BLFP-10LTZ	
IC2016	8-749-011-87	IC M48Z30Y-100PM1	
IC2017	8-759-926-12	IC SN74HC139ANS	
IC2018	8-759-035-93	IC SC7S32F	
IC2019	8-752-383-22	IC CXD108-146Q	
IC2020	8-759-242-76	IC TC7W08F	
IC2200	8-759-184-64	IC TC4W66FU	
IC2201	8-759-443-08	IC TC7W241FU-TE12R	
IC2202	8-759-011-65	IC MC74HC4053F	
IC2203	8-759-100-93	IC µPC393G2	
IC3000	8-759-443-08	IC TC7W241FU-TE12R	
IC3002	8-759-984-58	IC MB671469PF	
IC3003	8-759-984-59	IC MB654842UPF	
IC3004	8-759-239-55	IC TC74HC123AF	
IC3005	8-759-926-18	IC SN74HC157ANS	
IC3006	8-759-239-55	IC TC74HC123AF	
IC3007	8-759-062-66	IC TC7S66F	
IC4000	8-759-397-00	IC MAX489ECSD-TE2	
IC4001	8-759-360-79	IC TC7W14F	
IC4002	8-759-162-80	IC MM1170BFB	
IC4007	8-759-421-41	IC HD6433337WA08F	
IC4008	8-759-445-10	IC CY7C136-55JC-TEL	
IC4009	8-759-925-90	IC SN74HC74ANS	
IC4010	8-759-430-28	IC HM6264BLFP-10LTZ	
IC4012	8-759-926-11	IC SN74HC138ANS	
IC4013	8-759-925-79	IC SN74HC11ANS	
		< COIL >	
L100	1-412-058-11	INDUCTOR CHIP 10µH	
L101	1-412-058-11	INDUCTOR CHIP 10µH	
L102	1-412-058-11	INDUCTOR CHIP 10µH	
L103	1-412-058-11	INDUCTOR CHIP 10µH	
L200	1-414-235-11	INDUCTOR, FERRITE BEAD	
L201	1-412-058-11	INDUCTOR CHIP 10µH	
L202	1-414-235-11	INDUCTOR, FERRITE BEAD	
L204	1-412-058-11	INDUCTOR CHIP 10µH	
L205	1-412-058-11	INDUCTOR CHIP 10µH	
L207	1-412-796-41	INDUCTOR 47µH	
L300	1-412-058-11	INDUCTOR CHIP 10µH	
L400	1-412-058-11	INDUCTOR CHIP 10µH	
L1001	1-412-058-11	INDUCTOR CHIP 10µH	
L1002	1-412-531-31	INDUCTOR 33µH	
L1003	1-412-531-31	INDUCTOR 33µH	
L1004	1-412-531-31	INDUCTOR 33µH	
L1005	1-412-537-31	INDUCTOR 100µH	
L1006	1-412-531-31	INDUCTOR 33µH	
L1007	1-412-062-11	INDUCTOR CHIP 47µH	
L1008	1-412-533-21	INDUCTOR 47µH	
L2000	1-406-663-21	COIL, CHOKE 47µH	
L2001	1-412-533-21	INDUCTOR 47µH	
L2002	1-412-533-21	INDUCTOR 47µH	
		< TRANSISTOR >	
Q24	8-729-216-22	TRANSISTOR 2SA1162-G	
Q25	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q26	8-729-216-22	TRANSISTOR 2SA1162-G	
Q27	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q30	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q101	8-729-216-22	TRANSISTOR 2SA1162-G	
Q102	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q103	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q104	8-729-216-22	TRANSISTOR 2SA1162-G	
Q105	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q106	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q107	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q108	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q109	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q110	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q111	8-729-216-22	TRANSISTOR 2SA1162-G	

REF NO.	PART NO.	DESCRIPTION	REMARK
Q112	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q113	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q114	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q115	8-729-216-22	TRANSISTOR 2SA1162-G	
Q117	8-729-216-22	TRANSISTOR 2SA1162-G	
Q118	8-729-216-22	TRANSISTOR 2SA1162-G	
Q119	8-729-216-22	TRANSISTOR 2SA1162-G	
Q120	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q200	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q201	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q202	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q203	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q205	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q206	8-729-107-31	TRANSISTOR 2SC3545-T1T44	
Q211	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q212	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q214	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q215	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q216	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q217	8-729-216-22	TRANSISTOR 2SA1162-G	
Q218	8-729-216-22	TRANSISTOR 2SA1162-G	
Q219	8-729-216-22	TRANSISTOR 2SA1162-G	
Q220	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q221	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q222	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q300	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q301	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q302	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q400	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q401	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q402	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q406	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q450	8-729-902-96	TRANSISTOR FMS1	
Q451	8-729-902-96	TRANSISTOR FMS1	
Q452	8-729-902-96	TRANSISTOR FMS1	
Q1001	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q1002	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1003	8-729-101-07	TRANSISTOR 2SB798-DL	
Q1004	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1005	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1006	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1007	8-729-027-38	TRANSISTOR DTA144EKA-T146	
Q1008	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1009	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1010	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1011	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1012	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1013	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1014	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1016	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1017	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1018	8-729-302-77	TRANSISTOR 2SC1906	
Q1019	8-729-302-77	TRANSISTOR 2SC1906	
Q1020	8-729-302-77	TRANSISTOR 2SC1906	
Q1021	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q1022	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q1024	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1025	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1026	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1027	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1028	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1029	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1030	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1031	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1032	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1033	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1034	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1035	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1036	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1037	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q1038	8-729-107-31	TRANSISTOR 2SC3545-T1T44	
Q1039	8-729-107-31	TRANSISTOR 2SC3545-T1T44	
Q1040	8-729-107-31	TRANSISTOR 2SC3545-T1T44	
Q1041	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1200	8-729-900-53	TRANSISTOR DTC114EK	
Q1201	8-729-900-53	TRANSISTOR DTC114EK	
Q1202	8-729-900-53	TRANSISTOR DTC114EK	
Q1203	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q1204	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1205	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q1315	8-729-809-22	TRANSISTOR 2SC3950-D	
Q1316	8-729-302-77	TRANSISTOR 2SC1906	
Q1415	8-729-809-22	TRANSISTOR 2SC3950-D	
Q1416	8-729-302-77	TRANSISTOR 2SC1906	
Q1515	8-729-809-22	TRANSISTOR 2SC3950-D	
Q1516	8-729-302-77	TRANSISTOR 2SC1906	
Q2000	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q2001	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q2002	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q2003	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q2004	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q2005	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q2006	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q2200	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q4003	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q4004	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
		< RESISTOR >	
R1	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
R3	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R5	1-216-097-91	METAL GLAZE 100K 5% 1/10W	
R6	1-216-097-91	METAL GLAZE 100K 5% 1/10W	
R7	1-216-097-91	METAL GLAZE 100K 5% 1/10W	
R8	1-216-097-91	METAL GLAZE 100K 5% 1/10W	
R9	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R10	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R11	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R12	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R13	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R14	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R15	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R16	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R17	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R18	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R19	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R30	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R32	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R33	1-216-073-00	METAL GLAZE 10K 5% 1/10W	

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REF NO.	PART NO.	DESCRIPTION				REMARK
R34	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R35	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R43	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R50	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R51	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R52	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R53	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R54	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R55	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R56	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R57	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R58	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R59	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R60	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R61	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R62	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R63	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R64	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R65	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R66	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R73	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R74	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R75	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R101	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R102	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R103	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R104	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R105	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R106	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R108	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R109	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R110	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R112	1-216-043-91	METAL GLAZE	560	5%	1/10W	
R113	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R114	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R116	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R117	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R118	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R119	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R120	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R121	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R122	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R123	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R124	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R125	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R126	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R127	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R128	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R129	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R130	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R131	1-216-043-91	METAL GLAZE	560	5%	1/10W	
R132	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R133	1-216-647-11	METAL CHIP	680	0.50%	1/10W	
R134	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R135	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R136	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R137	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R138	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R139	1-216-025-91	METAL GLAZE	100	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R140	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R141	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R142	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R145	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R146	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R147	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R148	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R151	1-216-043-91	METAL GLAZE	560	5%	1/10W	
R152	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R153	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R154	1-216-633-11	METAL CHIP	180	0.50%	1/10W	
R155	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R156	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R157	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R158	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R159	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R160	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R161	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R162	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R164	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R165	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R166	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R167	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R168	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	
R169	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	
R171	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R172	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R180	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R181	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R182	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R183	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R185	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R186	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R187	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R188	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R189	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R190	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R191	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R192	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R193	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R194	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R195	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R196	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R197	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R198	1-216-617-11	METAL CHIP	39	0.50%	1/10W	
R199	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R200	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R201	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R202	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R203	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R204	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R205	1-216-295-91	CONDUCTOR, CHIP (2012)				
R206	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R208	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R211	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R214	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R215	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R216	1-216-091-00	METAL GLAZE	56K	5%	1/10W	

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REF NO.	PART NO.	DESCRIPTION				REMARK
R217	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R218	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R219	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R221	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R228	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R230	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R234	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R244	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R245	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R250	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R253	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R254	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R261	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R262	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R263	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R264	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R265	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R266	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R267	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R268	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R269	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R270	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R271	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R272	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R273	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R274	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R275	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R276	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R277	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R278	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R279	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R280	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R281	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R282	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R283	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R290	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R292	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R293	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R294	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R300	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R301	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R302	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R303	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R304	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R305	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R306	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R307	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R308	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R309	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R310	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R311	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R312	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R313	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R314	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R321	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R325	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R326	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R327	1-216-039-00	METAL GLAZE	390	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R328	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R329	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R330	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R400	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R401	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R402	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R403	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R405	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R407	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R408	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R409	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R411	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R413	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R414	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R415	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R416	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R417	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R418	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R425	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R427	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R450	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R451	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R452	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R453	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R454	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R455	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R456	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R457	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R458	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R459	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R460	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R461	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R464	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R465	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R466	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R467	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R468	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R469	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R470	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R471	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R472	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R1001	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1002	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1003	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1004	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1005	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1006	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1007	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1008	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1009	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1010	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1011	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1012	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1013	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1014	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1015	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1016	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1017	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1018	1-216-073-00	METAL GLAZE	10K	5%	1/10W	

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REF NO.	PART NO.	DESCRIPTION				REMARK
R1019	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1020	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1021	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1022	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1023	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1024	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1025	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1026	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1027	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1028	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1029	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1030	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1032	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1033	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1035	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1036	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1037	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1038	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1039	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1040	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1041	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1042	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1043	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1044	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1045	1-208-780-11	METAL GLAZE	820	0.50%	1/10W	
R1046	1-208-780-11	METAL GLAZE	820	0.50%	1/10W	
R1047	1-208-780-11	METAL GLAZE	820	0.50%	1/10W	
R1049	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1050	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1051	1-208-780-11	METAL GLAZE	820	0.50%	1/10W	
R1052	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1053	1-208-780-11	METAL GLAZE	820	0.50%	1/10W	
R1054	1-208-780-11	METAL GLAZE	820	0.50%	1/10W	
R1055	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1056	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1057	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1058	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1059	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1060	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R1061	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R1062	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R1063	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R1064	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1065	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1066	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1067	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1068	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1069	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1070	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1071	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1072	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1073	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1074	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1075	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1076	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1077	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1078	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1079	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1080	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1081	1-266-295-91	CONDUCTOR CHIP	0		1/10W	
R1082	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1084	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1085	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1086	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R1087	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1088	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1089	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1090	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1091	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1092	1-216-681-11	METAL CHIP	18K	0.50%	1/10W	
R1093	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1094	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W	
R1096	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R1097	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1099	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1100	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R1101	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R1102	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1103	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1104	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1105	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1106	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1107	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1108	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1109	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1110	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1111	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R1112	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R1113	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R1114	1-216-615-11	METAL CHIP	33	0.50%	1/10W	
R1115	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1116	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1117	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1118	1-216-615-11	METAL CHIP	33	0.50%	1/10W	
R1119	1-216-615-11	METAL CHIP	33	0.50%	1/10W	
R1120	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R1121	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1122	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R1123	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1124	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R1125	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R1126	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R1127	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R1128	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1129	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1130	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1131	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1132	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1133	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1134	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1135	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1136	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1137	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1138	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1139	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1140	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1141	1-216-013-00	METAL GLAZE	33	5%	1/10W	

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REF NO.	PART NO.	DESCRIPTION				REMARK
R1142	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1143	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1144	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R1145	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1146	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1147	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1148	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1149	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1150	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R1151	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1152	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R1153	1-216-641-11	METAL CHIP	390	0.50%	1/10W	
R1154	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R1155	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R1156	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R1157	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1158	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R1159	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1161	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1163	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R1165	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1166	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R1167	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R1168	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R1169	1-220-259-11	METAL GLAZE	150	5%	1/4W	
R1170	1-220-259-11	METAL GLAZE	150	5%	1/4W	
R1171	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1172	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R1173	1-220-259-11	METAL GLAZE	150	5%	1/4W	
R1174	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R1175	1-220-259-11	METAL GLAZE	150	5%	1/4W	
R1176	1-220-259-11	METAL GLAZE	150	5%	1/4W	
R1177	1-216-678-11	METAL CHIP	13K	0.50%	1/10W	
R1178	1-220-259-11	METAL GLAZE	150	5%	1/4W	
R1179	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1180	1-220-259-11	METAL GLAZE	150	5%	1/4W	
R1181	1-216-689-11	METAL CHIP	39K	0.50%	1/10W	
R1182	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1183	1-220-259-11	METAL GLAZE	150	5%	1/4W	
R1184	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R1185	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R1186	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R1187	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R1188	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R1189	1-216-681-11	METAL CHIP	18K	0.50%	1/10W	
R1190	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W	
R1191	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R1192	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R1193	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	
R1194	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1195	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R1196	1-216-603-11	METAL CHIP	10	0.50%	1/10W	
R1197	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R1198	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	
R1199	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1200	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1202	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R1203	1-220-260-11	METAL GLAZE	390	5%	1/4W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R1204	1-220-260-11	METAL GLAZE	390	5%	1/4W	
R1205	1-220-260-11	METAL GLAZE	390	5%	1/4W	
R1206	1-216-689-11	METAL CHIP	39K	0.50%	1/10W	
R1207	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R1208	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1209	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R1210	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R1211	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R1212	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R1213	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1214	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1215	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1216	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1217	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1218	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1219	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1220	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1221	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1222	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	
R1223	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1224	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1225	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R1226	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R1227	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R1228	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R1229	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1230	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1231	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1232	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1233	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1234	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1235	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1236	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1237	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1238	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1239	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1240	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1241	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1242	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1243	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1244	1-218-756-11	METAL CHIP	150K	0.50%	1/10W	
R1245	1-218-756-11	METAL CHIP	150K	0.50%	1/10W	
R1246	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1247	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R1248	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1249	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R1250	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R1252	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R1254	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1256	1-266-295-91	CONDUCTOR, CHIP	0		1/10W	
R1259	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1260	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R1262	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1263	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1264	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1265	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1266	1-216-073-00	METAL GLAZE	10K	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R1267	1-216-449-11	METAL OXIDE	56	5%	2W	F
R1268	1-249-417-11	CARBON	1K	5%	1/4W	
R1301	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1302	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1304	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R1305	1-218-767-11	METAL CHIP	430K	0.50%	1/10W	
R1306	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1307	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1308	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R1309	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1310	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1311	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1312	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1313	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R1314	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1315	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R1316	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1317	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1318	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1344	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1345	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1346	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R1347	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R1348	1-216-619-11	METAL CHIP	47	0.50%	1/10W	
R1349	1-220-264-11	METAL GLAZE	1K	5%	1/4W	
R1350	1-220-264-11	METAL GLAZE	1K	5%	1/4W	
R1356	9-910-999-31	METAL	150	1%	1/2W	
R1358	9-910-999-31	METAL	150	1%	1/2W	
R1444	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1445	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1446	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R1447	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R1448	1-216-619-11	METAL CHIP	47	0.50%	1/10W	
R1449	1-220-264-11	METAL GLAZE	1K	5%	1/4W	
R1450	1-220-264-11	METAL GLAZE	1K	5%	1/4W	
R1456	9-910-999-31	METAL	150	1%	1/2W	
R1458	9-910-999-31	METAL	150	1%	1/2W	
R1544	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1545	1-216-295-91	CONDUCTOR, CHIP (2012)				
R1546	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R1547	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R1548	1-216-619-11	METAL CHIP	47	0.50%	1/10W	
R1549	1-220-264-11	METAL GLAZE	1K	5%	1/4W	
R1550	1-220-264-11	METAL GLAZE	1K	5%	1/4W	
R1556	9-910-999-31	METAL	150	1%	1/2W	
R1558	9-910-999-31	METAL	150	1%	1/2W	
R2000	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2001	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2002	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2003	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2004	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2005	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2006	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2007	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2008	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2013	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2014	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2015	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2016	1-216-025-91	METAL GLAZE	100	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R2017	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2018	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2019	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2020	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2021	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2022	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2023	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2025	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2026	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2027	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2029	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2030	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2031	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2032	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2033	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2034	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2035	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2036	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2037	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2038	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2039	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2040	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2041	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2042	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2043	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2044	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2045	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2046	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2047	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2048	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2049	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2050	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2051	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2052	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2053	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2054	1-216-295-91	CONDUCTOR, CHIP (2012)				
R2055	1-216-295-91	CONDUCTOR, CHIP (2012)				
R2057	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R2058	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R2059	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2060	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2061	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2062	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2063	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2064	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R2065	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R2066	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R2067	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2068	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R2069	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R2070	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2071	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2072	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2073	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2074	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2075	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2076	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2077	1-216-049-91	METAL GLAZE	1K	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R2078	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2079	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2080	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2081	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2082	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2083	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R2084	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R2087	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2088	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2089	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R2090	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2091	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R2092	1-215-863-11	METAL OXIDE	100	5%	1W	F
R2094	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2095	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2096	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R2097	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2098	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2100	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R2101	1-216-603-11	METAL CHIP	10	0.50%	1/10W	
R2103	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R2105	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R2107	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2111	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2112	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2113	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2114	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2115	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2116	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2117	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2118	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2119	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2120	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2121	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2122	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2123	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2124	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R2125	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2126	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2127	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2128	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2129	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2130	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2131	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2132	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2133	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2200	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R2201	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R2202	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2203	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2204	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R2205	1-216-047-91	METAL GLAZE	820	5%	1/10W	
R2206	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2208	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2210	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2212	1-216-295-91	CONDUCTOR, CHIP (2012)				
R2213	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2214	1-216-089-91	METAL GLAZE	47K	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R2215	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2216	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R2217	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2218	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2219	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2220	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R2221	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2223	1-216-295-91	CONDUCTOR, CHIP (2012)				
R3000	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R3001	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R3002	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R3003	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R3004	1-216-121-91	METAL GLAZE	1M	5%	1/10W	
R3005	1-216-121-91	METAL GLAZE	1M	5%	1/10W	
R3006	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3007	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R3008	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R3009	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R3010	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R4001	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R4002	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R4003	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R4004	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R4005	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R4006	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R4007	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R4008	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R4009	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R4010	1-216-295-91	CONDUCTOR, CHIP (2012)				
R4011	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R4012	1-216-295-91	CONDUCTOR, CHIP (2012)				
R4013	1-216-295-91	CONDUCTOR, CHIP (2012)				
R4014	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R4015	1-216-295-91	CONDUCTOR, CHIP (2012)				
R4016	1-216-295-91	CONDUCTOR, CHIP (2012)				
R4017	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R4018	1-216-295-91	CONDUCTOR, CHIP (2012)				
R4019	1-216-295-91	CONDUCTOR, CHIP (2012)				
R4020	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R4021	1-216-295-91	CONDUCTOR, CHIP (2012)				
R4022	1-216-295-91	CONDUCTOR, CHIP (2012)				
R4023	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R4024	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R4025	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R4026	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R4027	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R4028	1-216-295-91	CONDUCTOR, CHIP (2012)				
R4029	1-216-295-91	CONDUCTOR, CHIP (2012)				
R4030	1-216-295-91	CONDUCTOR, CHIP (2012)				
R4031	1-216-295-91	CONDUCTOR, CHIP (2012)				
R4032	1-216-295-91	CONDUCTOR, CHIP (2012)				
R4033	1-216-295-91	CONDUCTOR, CHIP (2012)				
R4034	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R4035	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R4037	1-216-295-91	CONDUCTOR, CHIP (2012)				
R4039	1-216-295-91	CONDUCTOR, CHIP (2012)				
R4040	1-216-295-91	CONDUCTOR, CHIP (2012)				
R4041	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R4042	1-216-073-00	METAL GLAZE	10K	5%	1/10W	

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REF NO.	PART NO.	DESCRIPTION	REMARK
R4043	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4046	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4047	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4050	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4051	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4052	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4053	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4054	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4056	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R4057	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R4062	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4063	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4064	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4065	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4066	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4067	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4068	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4069	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4070	1-216-295-91	CONDUCTOR, CHIP (2012)	
R4071	1-216-295-91	CONDUCTOR, CHIP (2012)	
R4072	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4073	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4074	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4075	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R4100	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R4101	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R4102	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R4103	1-216-025-91	METAL GLAZE 100 5% 1/10W	
		< VARIABLE RESISTOR >	
RV1001	1-238-801-11	RES, ADJ, CERMET 5K	
RV1002	1-238-804-11	RES, ADJ, CERMET 50K	
RV1300	1-238-801-11	RES, ADJ, CERMET 5K	
RV1301	1-238-802-11	RES, ADJ, CERMET 10K	
		< SWITCH >	
S2000	1-571-674-11	SWITCH, SLIDE	
S2001	1-570-598-11	SWITCH, DIP	
S2002	1-570-204-21	SWITCH, KEY BOARD	
S4001	1-692-270-21	SWITCH, SLIDE	
		< TERMINAL BOARD >	
TB1001	* 1-694-163-11	TERMINAL BOARD ASSY, I/O	
TB4001	* 1-694-219-11	TERMINAL BOARD ASSY, I/O	
		< TEST PIN >	
TP1	* 1-535-877-22	CHIP, CHECKER	
TP2	* 1-535-877-22	CHIP, CHECKER	
TP4	* 1-535-877-22	CHIP, CHECKER	
TP5	* 1-535-877-22	CHIP, CHECKER	
TP6	* 1-535-877-22	CHIP, CHECKER	
TP7	* 1-535-877-22	CHIP, CHECKER	
TP8	* 1-535-877-22	CHIP, CHECKER	
TP10	* 1-535-877-22	CHIP, CHECKER	
TP11	* 1-535-877-22	CHIP, CHECKER	
TP12	* 1-535-877-22	CHIP, CHECKER	
TP100	* 1-535-877-22	CHIP, CHECKER	
TP101	* 1-535-877-22	CHIP, CHECKER	
TP102	* 1-535-877-22	CHIP, CHECKER	
TP114	* 1-535-877-22	CHIP, CHECKER	
TP115	* 1-535-877-22	CHIP, CHECKER	
TP116	* 1-535-877-22	CHIP, CHECKER	
TP201	* 1-535-877-22	CHIP, CHECKER	
TP202	* 1-535-877-22	CHIP, CHECKER	
TP203	* 1-535-877-22	CHIP, CHECKER	
TP204	* 1-535-877-22	CHIP, CHECKER	
TP205	* 1-535-877-22	CHIP, CHECKER	
TP403	* 1-535-877-22	CHIP, CHECKER	
TP404	* 1-535-877-22	CHIP, CHECKER	
TP405	* 1-535-877-22	CHIP, CHECKER	
TP1301	* 1-535-877-22	CHIP, CHECKER	
TP1401	* 1-535-877-22	CHIP, CHECKER	
TP1501	* 1-535-877-22	CHIP, CHECKER	
TP2000	* 1-535-877-22	CHIP, CHECKER	
TP2001	* 1-535-877-22	CHIP, CHECKER	
TP2002	* 1-535-877-22	CHIP, CHECKER	
TP2003	* 1-535-877-22	CHIP, CHECKER	
TP2004	* 1-535-877-22	CHIP, CHECKER	
TP2005	* 1-535-877-22	CHIP, CHECKER	
TP2006	* 1-535-877-22	CHIP, CHECKER	
TP2007	* 1-535-877-22	CHIP, CHECKER	
TP2008	* 1-535-877-22	CHIP, CHECKER	
TP2009	* 1-535-877-22	CHIP, CHECKER	
TP2010	* 1-535-877-22	CHIP, CHECKER	
TP2011	* 1-535-877-22	CHIP, CHECKER	
TP2013	* 1-535-877-22	CHIP, CHECKER	
TP2015	* 1-535-877-22	CHIP, CHECKER	
TP2016	* 1-535-877-22	CHIP, CHECKER	
TP2022	* 1-535-877-22	CHIP, CHECKER	
TP2023	* 1-535-877-22	CHIP, CHECKER	
TP2024	* 1-535-877-22	CHIP, CHECKER	
TP3000	* 1-535-877-22	CHIP, CHECKER	
TP3001	* 1-535-877-22	CHIP, CHECKER	
TP3002	* 1-535-877-22	CHIP, CHECKER	
TP3003	* 1-535-877-22	CHIP, CHECKER	
TP3005	* 1-535-877-22	CHIP, CHECKER	
TP3006	* 1-535-877-22	CHIP, CHECKER	
TP4000	* 1-535-877-22	CHIP, CHECKER	
TP4001	* 1-535-877-22	CHIP, CHECKER	
TP4002	* 1-535-877-22	CHIP, CHECKER	
TP4003	* 1-535-877-22	CHIP, CHECKER	
TP4004	* 1-535-877-22	CHIP, CHECKER	
TP4005	* 1-535-877-22	CHIP, CHECKER	
TP4006	* 1-535-877-22	CHIP, CHECKER	
TP4007	* 1-535-877-22	CHIP, CHECKER	
TP4009	* 1-535-877-22	CHIP, CHECKER	
TP4010	* 1-535-877-22	CHIP, CHECKER	
		< CRYSTAL >	
X200	1-567-505-11	OSCILLATOR, CRYSTAL (3.579545MHz)	
X201	1-567-504-11	OSCILLATOR, CRYSTAL (4.43618MHz)	
X202	1-579-973-11	VIBRATOR, CRYSTAL (3.57561MHz)	
X2000	1-577-116-21	VIBRATOR, CRYSTAL (16MHz)	
X3000	1-577-116-21	VIBRATOR, CRYSTAL (16MHz)	
X3001	1-578-687-11	VIBRATOR, CRYSTAL (12.288MHz)	
X4000	1-577-116-21	VIBRATOR, CRYSTAL (16MHz)	

REF NO.	PART NO.	DESCRIPTION			REMARK
**					
	*A-1293-354-A	AA MOUNTED PC BOARD ************************			
		< CAPACITOR >			
C1	1-124-589-11	ELECT	47MF	20%	16V
C2	1-124-589-11	ELECT	47MF	20%	16V
C3	1-124-589-11	ELECT	47MF	20%	16V
C4	1-124-589-11	ELECT	47MF	20%	16V
C5	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
		< CONNECTOR>			
CN437	1-564-523-11	PLUG, CONNECTOR 8P			
		< DIODE >			
D1	8-719-106-53	DIODE RD10M-B2			
D2	8-719-106-53	DIODE RD10M-B2			
D3	8-719-106-53	DIODE RD10M-B2			
D4	8-719-801-78	DIODE 1SS184			
D5	8-719-045-99	DIODE RD2.2M-T1B			
D6	8-719-045-99	DIODE RD2.2M-T1B			
		< TRANSISTOR >			
Q1	8-729-027-59	TRANSISTOR DTC144EKA-T146			
		< RESISTOR >			
R1	1-216-624-11	METAL CHIP	75	0.50%	1/10W
R2	1-216-025-91	METAL GLAZE	100	5%	1/10W
R3	1-216-025-91	METAL GLAZE	100	5%	1/10W
R4	1-216-025-91	METAL GLAZE	100	5%	1/10W
R5	1-216-624-11	METAL CHIP	75	0.50%	1/10W
R6	1-216-624-11	METAL CHIP	75	0.50%	1/10W
R7	1-216-025-91	METAL GLAZE	100	5%	1/10W
R8	1-216-073-00	METAL GLAZE	10K	5%	1/10W
		< RELAY >			
RY1	1-515-716-11	RELAY (TQ2-5V)			
**					
	* A-1293-356-A	AB MOUNTED PC BOARD ************************			
	* 1-540-212-11	SOCKET (ROTARY SWITCH)(S101, 102)			
		< CONNECTOR>			
CN100	* 1-564-527-11	PLUG, CONNECTOR 12P			
CN101	* 1-564-522-11	PLUG, CONNECTOR 7P			
		< JACK >			
J200	1-507-562-00	JACK (TRIGGER)			
		< TRANSISTOR >			
Q200	8-729-027-59	TRANSISTOR DTC144EKA-T146			
		< RESISTOR >			
R200	1-216-043-91	METAL GLAZE	560	5%	1/10W
R201	1-216-049-91	METAL GLAZE	1K	5%	1/10W
		< SWITCH >			
S101	1-572-853-11	SWITCH, ROTARY			
S102	1-572-853-11	SWITCH, ROTARY			
**					
	* A-1293-524-A	AC MOUNTED PC BOARD ************************			
		< CAPACITOR >			
C401	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C402	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C403	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C404	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C405	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C406	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C408	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C409	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C410	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C411	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C413	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C414	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C415	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C416	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C417	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C418	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C419	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C420	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C421	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C422	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C423	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C424	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C425	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C426	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C427	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C428	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C429	1-126-394-11	ELECT CHIP	10MF	20%	16V
C430	1-126-394-11	ELECT CHIP	10MF	20%	16V
C431	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C432	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C433	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
		< CONNECTOR>			
CN401	1-774-415-11	CONNECTOR, BOARD TO BOARD 20P			
		< DIODE >			
D401	8-719-801-78	DIODE 1SS184			
D402	8-719-801-78	DIODE 1SS184			
D403	8-719-801-78	DIODE 1SS184			
		< IC >			
IC401	8-759-251-32	IC NJM4200M			
IC402	8-759-981-48	IC TL082M			
IC403	8-759-251-32	IC NJM4200M			
IC404	8-759-251-32	IC NJM4200M			
IC405	8-759-981-48	IC TL082M			

AC

REF NO.	PART NO.	DESCRIPTION	REMARK
IC406	8-759-981-48	IC TL082M	
IC407	8-759-981-48	IC TL082M	
IC408	8-759-981-48	IC TL082M	
IC409	8-759-981-48	IC TL082M	
IC410	8-759-981-48	IC TL082M	
IC411	8-759-981-48	IC TL082M	
		< TRANSISTOR >	
Q401	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q402	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q403	8-729-027-59	TRANSISTOR DTC144EKA-T146	
		< RESISTOR >	
R401	1-216-699-11	METAL CHIP 100K 0.50% 1/10W	
R402	1-216-699-11	METAL CHIP 100K 0.50% 1/10W	
R403	1-216-699-11	METAL CHIP 100K 0.50% 1/10W	
R404	1-216-699-11	METAL CHIP 100K 0.50% 1/10W	
R405	1-216-699-11	METAL CHIP 100K 0.50% 1/10W	
R406	1-216-699-11	METAL CHIP 100K 0.50% 1/10W	
R407	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R408	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R409	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R410	1-216-699-11	METAL CHIP 100K 0.50% 1/10W	
R411	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R412	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R413	1-216-699-11	METAL CHIP 100K 0.50% 1/10W	
R414	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R415	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R416	1-216-699-11	METAL CHIP 100K 0.50% 1/10W	
R417	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	
R418	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	
R419	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	
R420	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	
R421	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	
R422	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	
R429	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	
R430	1-216-699-11	METAL CHIP 100K 0.50% 1/10W	
R431	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	
R432	1-216-699-11	METAL CHIP 100K 0.50% 1/10W	
R433	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	
R434	1-216-699-11	METAL CHIP 100K 0.50% 1/10W	
R435	1-216-693-11	METAL CHIP 56K 0.50% 1/10W	
R436	1-216-694-11	METAL CHIP 62K 0.50% 1/10W	
R437	1-216-694-11	METAL CHIP 62K 0.50% 1/10W	
R438	1-216-693-11	METAL CHIP 56K 0.50% 1/10W	
R439	1-216-694-11	METAL CHIP 62K 0.50% 1/10W	
R440	1-216-693-11	METAL CHIP 56K 0.50% 1/10W	
R441	1-216-679-11	METAL CHIP 15K 0.50% 1/10W	
R442	1-216-679-11	METAL CHIP 15K 0.50% 1/10W	
R443	1-216-679-11	METAL CHIP 15K 0.50% 1/10W	
R444	1-216-295-91	CONDUCTOR, CHIP (2012)	
R445	1-216-295-91	CONDUCTOR, CHIP (2012)	
R446	1-216-295-91	CONDUCTOR, CHIP (2012)	
R447	1-216-673-11	METAL CHIP 8.2K 0.50% 1/10W	
R448	1-216-673-11	METAL CHIP 8.2K 0.50% 1/10W	
R449	1-216-673-11	METAL CHIP 8.2K 0.50% 1/10W	
R450	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R451	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R452	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R453	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R454	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R455	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R456	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R457	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R459	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	
R460	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	
R461	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	
R462	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R463	1-216-687-11	METAL CHIP 33K 0.50% 1/10W	
R465	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	
R466	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R467	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R468	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R469	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R470	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R471	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R472	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R473	1-216-669-11	METAL CHIP 5.6K 0.50% 1/10W	
R474	1-216-665-11	METAL CHIP 3.9K 0.50% 1/10W	
R475	1-216-679-11	METAL CHIP 15K 0.50% 1/10W	
R476	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R477	1-216-679-11	METAL CHIP 15K 0.50% 1/10W	
R478	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
R479	1-218-756-11	METAL CHIP 150K 0.50% 1/10W	
R480	1-218-756-11	METAL CHIP 150K 0.50% 1/10W	
R481	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R482	1-216-679-11	METAL CHIP 15K 0.50% 1/10W	
R483	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
R484	1-218-756-11	METAL CHIP 150K 0.50% 1/10W	
R485	1-218-756-11	METAL CHIP 150K 0.50% 1/10W	
R486	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
R487	1-218-756-11	METAL CHIP 150K 0.50% 1/10W	
R488	1-218-756-11	METAL CHIP 150K 0.50% 1/10W	
R489	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R490	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R491	1-216-669-11	METAL CHIP 5.6K 0.50% 1/10W	
R492	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R493	1-216-669-11	METAL CHIP 5.6K 0.50% 1/10W	
R494	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R495	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R496	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R497	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R498	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R499	1-216-661-11	METAL CHIP 2.7K 0.50% 1/10W	
R502	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R503	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R504	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R505	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R506	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R507	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R508	1-216-665-11	METAL CHIP 3.9K 0.50% 1/10W	
R509	1-216-665-11	METAL CHIP 3.9K 0.50% 1/10W	
R510	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R511	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R512	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	

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REF NO.	PART NO.	DESCRIPTION			REMARK
	* A-1293-525-A	AD MOUNTED PC BOARD ************************			
		< CAPACITOR >			
C1	1-126-394-11	ELECT CHIP	10MF	20%	16V
C2	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C3	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C4	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C5	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C6	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C7	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C8	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C9	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C10	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C11	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C12	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C13	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C14	1-126-394-11	ELECT CHIP	10MF	20%	16V
C15	1-126-394-11	ELECT CHIP	10MF	20%	16V
		< CONNECTOR>			
CN101	* 1-774-246-11	CONNECTOR, BOARD TO BOARD 10P			
		< DIODE >			
D1	8-719-801-78	DIODE 1SS184			
D2	8-719-801-78	DIODE 1SS184			
D3	8-719-800-76	DIODE 1SS226			
D4	8-719-801-78	DIODE 1SS184			
D5	8-719-800-76	DIODE 1SS226			
		< TRANSISTOR >			
Q1	8-729-107-31	TRANSISTOR 2SC3545-T1T44			
Q2	8-729-112-65	TRANSISTOR 2SA1462-Y33			
Q3	8-729-107-31	TRANSISTOR 2SC3545-T1T44			
Q4	8-729-107-31	TRANSISTOR 2SC3545-T1T44			
Q5	8-729-112-65	TRANSISTOR 2SA1462-Y33			
Q6	8-729-112-65	TRANSISTOR 2SA1462-Y33			
Q7	8-729-107-31	TRANSISTOR 2SC3545-T1T44			
Q8	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q9	8-729-112-65	TRANSISTOR 2SA1462-Y33			
Q10	8-729-112-65	TRANSISTOR 2SA1462-Y33			
Q11	8-729-107-31	TRANSISTOR 2SC3545-T1T44			
Q12	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q13	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q14	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
		< RESISTOR >			
R1	1-216-643-11	METAL CHIP	470	0.50%	1/10W
R2	1-216-643-11	METAL CHIP	470	0.50%	1/10W
R3	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R4	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R5	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R6	1-216-629-11	METAL CHIP	120	0.50%	1/10W
R7	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R8	1-216-643-11	METAL CHIP	470	0.50%	1/10W
R9	1-216-643-11	METAL CHIP	470	0.50%	1/10W
R10	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W
R11	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R12	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R13	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R14	1-216-017-91	METAL GLAZE	47	5%	1/10W
R15	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
R16	1-216-021-00	METAL GLAZE	68	5%	1/10W
R17	1-216-025-91	METAL GLAZE	100	5%	1/10W
R18	1-216-035-00	METAL GLAZE	270	5%	1/10W
R19	1-216-025-91	METAL GLAZE	100	5%	1/10W
R20	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R21	1-216-021-00	METAL GLAZE	68	5%	1/10W
R22	1-216-001-00	METAL GLAZE	10	5%	1/10W
R23	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R24	1-216-025-91	METAL GLAZE	100	5%	1/10W
R25	1-216-025-91	METAL GLAZE	100	5%	1/10W
R26	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W
R27	1-216-013-00	METAL GLAZE	33	5%	1/10W
R28	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R29	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W
R30	1-216-025-91	METAL GLAZE	100	5%	1/10W
R31	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R32	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R33	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R34	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R35	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R36	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R37	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R38	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R39	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R40	1-216-037-00	METAL GLAZE	330	5%	1/10W
R41	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R42	1-216-037-00	METAL GLAZE	330	5%	1/10W
R43	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
**					
	* A-1131-271-A	BH MOUNTED PC BOARD ************************			
		< CAPACITOR >			
C1	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
		< IC >			
IC1	8-759-082-61	IC TC4W53FU			
		< RESISTOR >			
R1	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R2	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
**					
	* A-1331-581-A	CB MOUNTED PC BOARD ************************			
	3-899-248-11	SCREW (M3X8)			
	* 4-056-423-01	HOLDER (VP)			
	7-682-653-09	SCREW +PS 3X20			
		< CAPACITOR >			
C301	1-126-791-11	ELECT	10MF	20%	16V
C302	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C303	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C305	1-102-050-00	CERAMIC	0.01MF	99%	500V

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

CB

REF NO.	PART NO.	DESCRIPTION			REMARK
C306	1-107-651-11	ELECT	4.7MF	20%	250V
C307	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C308	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C309	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C310	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C311	1-104-574-11	CERAMIC	0.0047MF	10%	2KV
C312	1-104-574-11	CERAMIC	0.0047MF	10%	2KV
C313	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C314	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C315	1-126-791-11	ELECT	10MF	20%	16V
C316	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V
C317	1-104-574-11	CERAMIC	0.0047MF	10%	2KV
C318	1-126-791-11	ELECT	10MF	20%	16V
C319	1-126-791-11	ELECT	10MF	20%	16V
C320	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C321	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C322	1-104-574-11	CERAMIC	0.0047MF	10%	2KV
C323	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C324	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C325	1-126-096-11	ELECT	10MF	20%	25V
C326	1-126-096-11	ELECT	10MF	20%	25V
C327	1-107-651-11	ELECT	4.7MF	20%	250V
C328	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C329	1-107-636-11	ELECT	10MF	20%	160V
C330	1-162-318-11	CERAMIC	0.001MF	10%	500V
C331	1-107-686-11	TANTAL. CHIP	4.7MF	20%	16V
C332	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C333	1-107-686-11	TANTAL. CHIP	4.7MF	20%	16V
C334	1-107-686-11	TANTAL. CHIP	4.7MF	20%	16V
C335	1-107-686-11	TANTAL. CHIP	4.7MF	20%	16V
C336	1-107-686-11	TANTAL. CHIP	4.7MF	20%	16V
C337	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C338	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C339	1-162-318-11	CERAMIC	0.001MF	10%	500V
C340	1-136-165-00	FILM	0.1MF	5%	50V
C341	1-110-949-91	ELECT	2.2MF	20%	100V
C342	1-126-791-11	ELECT	10MF	20%	16V
C343	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C344	1-124-768-11	ELECT	4.7MF	20%	50V
C345	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C346	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C347	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C348	1-107-686-11	TANTAL. CHIP	4.7MF	20%	16V
C349	1-126-960-11	ELECT	1MF	20%	50V
C350	1-110-949-91	ELECT	2.2MF	20%	100V
		< CONNECTOR>			
CN301	* 1-564-522-11	PLUG, CONNECTOR 7P			
CN302	1-564-523-11	PLUG, CONNECTOR 8P			
CN303	* 1-564-507-11	PLUG, CONNECTOR 4P			
CN304	* 1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P			
CN305	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P			
		< DIODE >			
D301	8-719-901-83	DIODE 1SS83			
D302	8-719-800-76	DIODE 1SS226			
D303	8-719-901-83	DIODE 1SS83			
D304	8-719-800-76	DIODE 1SS226			
D305	8-719-106-53	DIODE RD10M-B2			
D306	8-719-106-53	DIODE RD10M-B2			
D310	8-719-801-78	DIODE 1SS184			
		< FERRITE BEAD >			
FB304	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH			
FB305	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH			
FB306	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH			
		< FILTER >			
FL301	1-233-830-11	FILTER, EMI			
FL302	1-233-830-11	FILTER, EMI			
FL303	1-233-512-21	FILTER, EMI			
FL304	1-233-512-21	FILTER, EMI			
FL305	1-233-512-21	FILTER, EMI			
FL306	1-233-512-21	FILTER, EMI			
FL307	1-233-830-11	FILTER, EMI			
FL308	1-233-512-21	FILTER, EMI			
FL309	1-233-831-11	FILTER, EMI			
FL310	1-233-831-11	FILTER, EMI			
		< IC >			
IC301	8-749-923-01	IC VPH06			
IC302	8-759-710-78	IC NJM082BM-T1			
IC303	8-759-234-77	IC TC4S66F			
IC304	8-759-708-12	IC NJM78L12A			
IC305	8-759-700-69	IC NJM79L12A			
IC310	8-759-710-78	IC NJM082BM-T1			
		< JACK >			
J301	1-568-548-11	JACK, MINIATUER PIN			
J302 ⚠	1-251-509-11	SOCKET, CRT			
		< COIL >			
L302	1-412-936-11	INDUCTOR	0.56µH		
		< NEON LAMP >			
NL301	1-519-276-21	LAMP, NEON			
		< TRANSISTOR >			
Q301	8-729-107-31	TRANSISTOR 2SC3545-T1T44			
Q302	8-729-801-88	TRANSISTOR 2SA1381-E			
Q305	8-729-026-55	TRANSISTOR FMY4A-T148			
Q306	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q307	8-729-903-10	TRANSISTOR FMW1			
Q308	8-729-903-10	TRANSISTOR FMW1			
Q309	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q310	8-729-821-00	TRANSISTOR 2SA1207			
Q311	8-729-026-58	TRANSISTOR FMY3A-T148			
Q312	8-729-026-58	TRANSISTOR FMY3A-T148			
Q313	8-729-026-58	TRANSISTOR FMY3A-T148			
Q314	8-729-019-70	TRANSISTOR 2SC3955-DE			
Q315	8-729-019-70	TRANSISTOR 2SC3955-DE			
Q317	8-729-821-00	TRANSISTOR 2SA1207			
Q318	8-729-116-05	TRANSISTOR 2SK160-K5			
		< RESISTOR >			
R301	9-910-999-31	METAL	150	1%	1/2W

REF NO.	PART NO.	DESCRIPTION				REMARK
R302	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R303	1-216-295-91	CONDUCTOR, CHIP (2012)				
R305	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R306	1-216-611-11	METAL CHIP	22	0.50%	1/10W	
R308	1-249-413-11	CARBON	470	5%	1/4W	F
R309	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R310	1-216-295-91	CONDUCTOR, CHIP (2012)				
R311	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R312	1-216-603-11	METAL CHIP	10	0.50%	1/10W	
R313	1-247-735-11	SOLID	47	20%	1/2W	
R314	1-202-727-00	SOLID	4.7M	20%	1/2W	
R315	1-249-413-11	CARBON	470	5%	1/4W	F
R316	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R317	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R320	1-202-533-11	SOLID	22	20%	1/2W	
R321	1-202-818-00	SOLID	1K	20%	1/2W	
R323	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R324	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R325	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R326	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R327	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R328	1-202-838-00	SOLID	100K	20%	1/2W	
R329	1-202-727-00	SOLID	4.7M	20%	1/2W	
R330	1-249-397-11	CARBON	22	5%	1/4W	F
R331	9-910-999-31	METAL	150	1%	1/2W	
R332	1-216-640-11	METAL CHIP	360	0.50%	1/10W	
R333	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R334	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R335	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R336	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R337	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R338	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R339	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R340	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R341	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R342	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R343	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R344	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R345	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R346	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R347	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R348	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R349	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R350	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R351	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R352	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R353	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R355	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R356	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R357	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R358	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R359	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R360	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R361	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R362	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R363	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R364	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R365	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R366	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R367	1-216-637-11	METAL CHIP	270	0.50%	1/10W	
R368	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R369	1-216-121-91	METAL GLAZE	1M	5%	1/10W	
R370	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R371	1-218-760-11	METAL CHIP	220K	0.50%	1/10W	
R372	1-218-760-11	METAL CHIP	220K	0.50%	1/10W	
R373	1-260-119-11	CARBON	47K	5%	1/2W	
R374	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R375	1-202-818-00	SOLID	1K	20%	1/2W	
R377	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R378	1-220-796-11	METAL	12K	1%	10W	
R379	1-211-795-11	FUSIBLE	470	5%	1/4W	F
R380	1-260-123-11	CARBON	100K	5%	1/2W	
R381	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R382	1-216-025-91	METAL GLAZE	100	5%	1/10W	
		< SPARK GAP >				
SG301	1-519-422-11	GAP, SPARK				
SG302	1-519-422-11	GAP, SPARK				
SG303	1-519-422-11	GAP, SPARK				

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* A-1331-632-A CF MOUNTED PC BOARD
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REF NO.	PART NO.	DESCRIPTION				REMARK
	3-701-809-31	SCREW, TERMINAL (M3X8)				
	* 4-057-443-01	HOLDER (CF), TR				
	4-393-405-01	SHEET (V), RADIATION				
		< CAPACITOR >				
C101	1-107-651-11	ELECT	4.7MF	20%	250V	
C102	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C103	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
		< CONNECTOR>				
CN711	*1-564-510-11	PLUG, CONNECTOR 7P				
		< DIODE >				
D100	8-719-105-82	DIODE RD5.1M-B2				
		< IC >				
IC101	8-759-710-78	IC NJM082BM-T1				
		< TRANSISTOR >				
Q100	8-729-903-68	TRANSISTOR 2SD982				
Q101	8-729-119-80	TRANSISTOR 2SC2688-LK				
		< RESISTOR >				
R100	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R101	1-215-900-11	METAL OXIDE	22K	5%	2W	F
R102	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R103	1-215-461-00	METAL	47K	1%	1/4W	
R104	1-215-463-00	METAL	56K	1%	1/4W	
R105	1-215-463-00	METAL	56K	1%	1/4W	
R106	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R107	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R108	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R109	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

CF **CG**

REF NO.	PART NO.	DESCRIPTION			REMARK
R110	1-216-643-11	METAL CHIP	470	0.50%	1/10W
		< VARIABLE RESISTOR >			
RV100	1-238-784-11	RES, ADJ, CERMET 1K			
**					
	* A-1331-580-A	CG MOUNTED PC BOARD ************************			
	3-899-248-11	SCREW (M3X8)			
	* 4-056-423-01	HOLDER (VP)			
	7-682-653-09	SCREW +PS 3X20			
		< CAPACITOR >			
C201	1-126-791-11	ELECT	10MF	20%	16V
C202	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C203	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C205	1-102-050-00	CERAMIC	0.01MF	99%	500V
C206	1-107-651-11	ELECT	4.7MF	20%	250V
C207	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C208	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C209	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C210	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C211	1-104-574-11	CERAMIC	0.0047MF	10%	2KV
C212	1-104-574-11	CERAMIC	0.0047MF	10%	2KV
C213	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C214	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C215	1-126-791-11	ELECT	10MF	20%	16V
C216	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V
C217	1-104-574-11	CERAMIC	0.0047MF	10%	2KV
C218	1-126-791-11	ELECT	10MF	20%	16V
C219	1-126-791-11	ELECT	10MF	20%	16V
C220	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C221	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C222	1-104-574-11	CERAMIC	0.0047MF	10%	2KV
C223	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C224	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C225	1-126-096-11	ELECT	10MF	20%	25V
C226	1-126-096-11	ELECT	10MF	20%	25V
C227	1-107-651-11	ELECT	4.7MF	20%	250V
C228	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C229	1-107-636-11	ELECT	10MF	20%	160V
C230	1-162-318-11	CERAMIC	0.001MF	10%	500V
C231	1-107-686-11	TANTAL. CHIP	4.7MF	20%	16V
C232	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C233	1-107-686-11	TANTAL. CHIP	4.7MF	20%	16V
C234	1-107-686-11	TANTAL. CHIP	4.7MF	20%	16V
C235	1-107-686-11	TANTAL. CHIP	4.7MF	20%	16V
C236	1-107-686-11	TANTAL. CHIP	4.7MF	20%	16V
C237	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C238	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C239	1-162-318-11	CERAMIC	0.001MF	10%	500V
C240	1-136-165-00	FILM	0.1MF	5%	50V
C241	1-110-949-91	ELECT	2.2MF	20%	100V
C242	1-126-791-11	ELECT	10MF	20%	16V
C243	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C244	1-124-768-11	ELECT	4.7MF	20%	50V
C245	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C246	1-165-319-11	CERAMIC CHIP	0.1MF		50V

REF NO.	PART NO.	DESCRIPTION			REMARK
C247	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C248	1-107-686-11	TANTAL. CHIP	4.7MF	20%	16V
C249	1-126-960-11	ELECT	1MF	20%	50V
C250	1-110-949-91	ELECT	2.2MF	20%	100V
		<CONNECTOR>			
CN201	* 1-564-522-11	PLUG, CONNECTOR 7P			
CN202	1-564-523-11	PLUG, CONNECTOR 8P			
CN203	* 1-564-507-11	PLUG, CONNECTOR 4P			
CN204	* 1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P			
CN205	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P			
		< DIODE >			
D201	8-719-901-83	DIODE 1SS83			
D202	8-719-800-76	DIODE 1SS226			
D203	8-719-901-83	DIODE 1SS83			
D204	8-719-800-76	DIODE 1SS226			
D205	8-719-106-53	DIODE RD10M-B2			
D206	8-719-106-53	DIODE RD10M-B2			
D210	8-719-801-78	DIODE 1SS184			
		< FERRITE BEAD >			
FB204	1-410-396-41	FERRITE BEAD INDUCTOR 0.45μH			
FB205	1-410-396-41	FERRITE BEAD INDUCTOR 0.45μH			
FB206	1-410-396-41	FERRITE BEAD INDUCTOR 0.45μH			
		< FILTER >			
FL201	1-233-830-11	FILTER, EMI			
FL202	1-233-830-11	FILTER, EMI			
FL203	1-233-512-21	FILTER, EMI			
FL204	1-233-512-21	FILTER, EMI			
FL205	1-233-512-21	FILTER, EMI			
FL206	1-233-512-21	FILTER, EMI			
FL207	1-233-830-11	FILTER, EMI			
FL208	1-233-512-21	FILTER, EMI			
FL209	1-233-831-11	FILTER, EMI			
FL210	1-233-831-11	FILTER, EMI			
		< IC >			
IC201	8-749-923-01	IC VPH06			
IC202	8-759-710-78	IC NJM082BM-T1			
IC203	8-759-234-77	IC TC4S66F			
IC204	8-759-708-12	IC NJM78L12A			
IC205	8-759-700-69	IC NJM79L12A			
IC210	8-759-710-78	IC NJM082BM-T1			
		< JACK >			
J201	1-568-548-11	JACK, MINIATUER PIN			
J202	⚠ 1-251-509-11	SOCKET, CRT			
		< COIL >			
L202	1-412-936-11	INDUCTOR	0.56μH		
		< NEON LAMP >			
NL201	1-519-276-21	LAMP, NEON			
		< TRANSISTOR >			
Q201	8-729-107-31	TRANSISTOR 2SC3545-T1T44			
Q202	8-729-801-88	TRANSISTOR 2SA1381-E			

REF NO.	PART NO.	DESCRIPTION				REMARK
Q205	8-729-026-55	TRANSISTOR FMY4A-T148				
Q206	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q207	8-729-903-10	TRANSISTOR FMW1				
Q208	8-729-903-10	TRANSISTOR FMW1				
Q209	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q210	8-729-821-00	TRANSISTOR 2SA1207				
Q211	8-729-026-58	TRANSISTOR FMY3A-T148				
Q212	8-729-026-58	TRANSISTOR FMY3A-T148				
Q213	8-729-026-58	TRANSISTOR FMY3A-T148				
Q214	8-729-019-70	TRANSISTOR 2SC3955-DE				
Q215	8-729-019-70	TRANSISTOR 2SC3955-DE				
Q217	8-729-821-00	TRANSISTOR 2SA1207				
Q218	8-729-116-05	TRANSISTOR 2SK160-K5				
		< RESISTOR >				
R201	9-910-999-31	METAL	150	1%	1/2W	
R202	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R203	1-216-295-91	CONDUCTOR, CHIP (2012)				
R205	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R206	1-216-611-11	METAL CHIP	22	0.50%	1/10W	
R208	1-249-413-11	CARBON	470	5%	1/4W	F
R209	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R210	1-216-295-91	CONDUCTOR, CHIP (2012)				
R211	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R212	1-216-603-11	METAL CHIP	10	0.50%	1/10W	
R213	1-247-735-11	SOLID	47	20%	1/2W	
R214	1-202-727-00	SOLID	4.7M	20%	1/2W	
R215	1-249-413-11	CARBON	470	5%	1/4W	F
R216	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R217	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R220	1-202-533-11	SOLID	22	20%	1/2W	
R221	1-202-818-00	SOLID	1K	20%	1/2W	
R223	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R224	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R225	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R226	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R227	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R228	1-202-838-00	SOLID	100K	20%	1/2W	
R229	1-202-727-00	SOLID	4.7M	20%	1/2W	
R230	1-249-397-11	CARBON	22	5%	1/4W	F
R231	9-910-999-31	METAL	150	1%	1/2W	
R232	1-216-640-11	METAL CHIP	360	0.50%	1/10W	
R233	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R234	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R235	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R236	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R237	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R238	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R239	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R240	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R241	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R242	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R243	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R244	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R245	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R246	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R247	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R248	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R249	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R250	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R251	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R252	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R253	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R255	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R256	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R257	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R258	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R259	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R260	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R261	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R262	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R263	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R264	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R265	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R266	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R267	1-216-637-11	METAL CHIP	270	0.50%	1/10W	
R268	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R269	1-216-121-91	METAL GLAZE	1M	5%	1/10W	
R270	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R271	1-218-760-11	METAL CHIP	220K	0.50%	1/10W	
R272	1-218-760-11	METAL CHIP	220K	0.50%	1/10W	
R273	1-260-119-11	CARBON	47K	5%	1/2W	
R274	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R275	1-202-818-00	SOLID	1K	20%	1/2W	
R277	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R278	1-220-796-11	METAL	12K	1%	10W	
R279	1-211-795-11	FUSIBLE	470	5%	1/4W	F
R280	1-260-123-11	CARBON	100K	5%	1/2W	
R281	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R282	1-216-025-91	METAL GLAZE	100	5%	1/10W	
		< SPARK GAP >				
SG201	1-519-422-11	GAP, SPARK				
SG202	1-519-422-11	GAP, SPARK				
SG203	1-519-422-11	GAP, SPARK				

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	* A-1331-579-A	CR MOUNTED PC BOARD ************************				
	3-899-248-11	SCREW (M3X8)				
	* 4-056-423-01	HOLDER (VP)				
	7-682-653-09	SCREW +PS 3X20				
		< CAPACITOR >				
C101	1-126-791-11	ELECT	10MF	20%	16V	
C102	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C103	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C105	1-102-050-00	CERAMIC	0.01MF	99%	500V	
C106	1-107-651-11	ELECT	4.7MF	20%	250V	
C107	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C108	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C109	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C110	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C111	1-104-574-11	CERAMIC	0.0047MF	10%	2KV	
C112	1-104-574-11	CERAMIC	0.0047MF	10%	2KV	
C113	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C114	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C115	1-126-791-11	ELECT	10MF	20%	16V	

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

CR

REF NO.	PART NO.	DESCRIPTION				REMARK
C116	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V	
C117	1-104-574-11	CERAMIC	0.0047MF	10%	2KV	
C118	1-126-791-11	ELECT	10MF	20%	16V	
C119	1-126-791-11	ELECT	10MF	20%	16V	
C120	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C121	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C122	1-104-574-11	CERAMIC	0.0047MF	10%	2KV	
C123	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C124	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C125	1-126-096-11	ELECT	10MF	20%	25V	
C126	1-126-096-11	ELECT	10MF	20%	25V	
C127	1-107-651-11	ELECT	4.7MF	20%	250V	
C128	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C129	1-107-636-11	ELECT	10MF	20%	160V	
C130	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C131	1-107-686-11	TANTAL. CHIP	4.7MF	20%	16V	
C132	1-163-243-11	CERAMIC CHIP	47PF	5%	50V	
C133	1-107-686-11	TANTAL. CHIP	4.7MF	20%	16V	
C134	1-107-686-11	TANTAL. CHIP	4.7MF	20%	16V	
C135	1-107-686-11	TANTAL. CHIP	4.7MF	20%	16V	
C136	1-107-686-11	TANTAL. CHIP	4.7MF	20%	16V	
C137	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C138	1-163-239-11	CERAMIC CHIP	33PF	5%	50V	
C139	1-162-318-11	CERAMIC	0.001MF	10%	500V	
C140	1-136-165-00	FILM	0.1MF	5%	50V	
C141	1-110-949-91	ELECT	2.2MF	20%	100V	
C142	1-126-791-11	ELECT	10MF	20%	16V	
C143	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C144	1-124-768-11	ELECT	4.7MF	20%	50V	
C145	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V	
C146	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C147	1-165-319-11	CERAMIC CHIP	0.1MF		50V	
C148	1-107-686-11	TANTAL. CHIP	4.7MF	20%	16V	
C149	1-126-960-11	ELECT	1MF	20%	50V	
C150	1-110-949-91	ELECT	2.2MF	20%	100V	
		< CONNECTOR>				
CN101	* 1-564-522-11	PLUG, CONNECTOR 7P				
CN102	* 1-564-523-11	PLUG, CONNECTOR 8P				
CN103	* 1-564-507-11	PLUG, CONNECTOR 4P				
CN104	* 1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P				
CN105	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P				
		< DIODE >				
D101	8-719-901-83	DIODE 1SS83				
D102	8-719-800-76	DIODE 1SS226				
D103	8-719-901-83	DIODE 1SS83				
D104	8-719-800-76	DIODE 1SS226				
D105	8-719-106-53	DIODE RD10M-B2				
D106	8-719-106-53	DIODE RD10M-B2				
D110	8-719-801-78	DIODE 1SS184				
		< FERRITE BEAD >				
FB104	1-410-396-41	FERRITE BEAD INDUCTOR 0.45μH				
FB105	1-410-396-41	FERRITE BEAD INDUCTOR 0.45μH				
FB106	1-410-396-41	FERRITE BEAD INDUCTOR 0.45μH				
		< FILTER >				

REF NO.	PART NO.	DESCRIPTION				REMARK
FL101	1-233-830-11	FILTER, EMI				
FL102	1-233-830-11	FILTER, EMI				
FL103	1-233-512-21	FILTER, EMI				
FL104	1-233-512-21	FILTER, EMI				
FL105	1-233-512-21	FILTER, EMI				
FL106	1-233-512-21	FILTER, EMI				
FL107	1-233-830-11	FILTER, EMI				
FL108	1-233-512-21	FILTER, EMI				
FL109	1-233-831-11	FILTER, EMI				
FL110	1-233-831-11	FILTER, EMI				
		< IC >				
IC101	8-749-923-01	IC VPH06				
IC102	8-759-710-78	IC NJM082BM-T1				
IC103	8-759-234-77	IC TC4S66F				
IC104	8-759-708-12	IC NJM78L12A				
IC105	8-759-700-69	IC NJM79L12A				
IC110	8-759-710-78	IC NJM082BM-T1				
		< JACK >				
J101	1-568-548-11	JACK, MINIATUER PIN				
J102	⚠ 1-251-509-11	SOCKET, CRT				
		< COIL >				
L102	1-412-936-11	INDUCTOR	0.56μH			
		< NEON LAMP >				
NL101	1-519-276-21	LAMP, NEON				
		< TRANSISTOR >				
Q101	8-729-107-31	TRANSISTOR 2SC3545-T1T44				
Q102	8-729-801-88	TRANSISTOR 2SA1381-E				
Q105	8-729-026-55	TRANSISTOR FMY4A-T148				
Q106	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q107	8-729-903-10	TRANSISTOR FMW1				
Q108	8-729-903-10	TRANSISTOR FMW1				
Q109	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q110	8-729-821-00	TRANSISTOR 2SA1207				
Q111	8-729-026-58	TRANSISTOR FMY3A-T148				
Q112	8-729-026-58	TRANSISTOR FMY3A-T148				
Q113	8-729-026-58	TRANSISTOR FMY3A-T148				
Q114	8-729-019-70	TRANSISTOR 2SC3955-DE				
Q115	8-729-019-70	TRANSISTOR 2SC3955-DE				
Q117	8-729-821-00	TRANSISTOR 2SA1207				
Q118	8-729-116-05	TRANSISTOR 2SK160-K5				
		< RESISTOR >				
R101	9-910-999-31	METAL	150	1%	1/2W	
R102	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R103	1-216-295-91	CONDUCTOR, CHIP (2012)				
R105	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R106	1-216-611-11	METAL CHIP	22	0.50%	1/10W	
R108	1-249-413-11	CARBON	470	5%	1/4W	F
R109	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R110	1-216-295-91	CONDUCTOR, CHIP (2012)				
R111	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R112	1-216-603-11	METAL CHIP	10	0.50%	1/10W	
R113	1-247-735-11	SOLID	47	20%	1/2W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R114	1-202-727-00	SOLID	4.7M	20%	1/2W	
R115	1-249-413-11	CARBON	470	5%	1/4W	F
R116	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R117	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R120	1-202-533-11	SOLID	22	20%	1/2W	
R121	1-202-818-00	SOLID	1K	20%	1/2W	
R123	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R124	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R125	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R126	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R127	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R128	1-202-838-00	SOLID	100K	20%	1/2W	
R129	1-202-727-00	SOLID	4.7M	20%	1/2W	
R130	1-249-397-11	CARBON	22	5%	1/4W	F
R131	9-910-999-31	METAL	150	1%	1/2W	
R132	1-216-640-11	METAL CHIP	360	0.50%	1/10W	
R133	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R134	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R135	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R136	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R137	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R138	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R139	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R140	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R141	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R142	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R143	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R144	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R145	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R146	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R147	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R148	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R149	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R150	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R151	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R152	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R153	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R155	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R156	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R157	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R158	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R159	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R160	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R161	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R162	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R163	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R164	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R165	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R166	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R167	1-216-637-11	METAL CHIP	270	0.50%	1/10W	
R168	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R169	1-216-121-91	METAL GLAZE	1M	5%	1/10W	
R170	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R171	1-218-760-11	METAL CHIP	220K	0.50%	1/10W	
R172	1-218-760-11	METAL CHIP	220K	0.50%	1/10W	
R173	1-260-119-11	CARBON	47K	5%	1/2W	
R174	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R175	1-202-818-00	SOLID	1K	20%	1/2W	
R177	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R178	1-220-796-11	METAL	12K	1%	10W	
R179	1-211-795-11	FUSIBLE	470	5%	1/4W	F
R180	1-260-123-11	CARBON	100K	5%	1/2W	
R181	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R182	1-216-025-91	METAL GLAZE	100	5%	1/10W	
		< SPARK GAP >				
SG101	1-519-422-11	GAP, SPARK				
SG102	1-519-422-11	GAP, SPARK				
SG103	1-519-422-11	GAP, SPARK				

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	* A-1346-521-A	D COMPLETE PC BOARD (Include DFH, DFV and DP Mounted PC BOARD) **				
	4-058-217-01	CUSHION				
	* 4-395-527-01	HOLDER (B), TR				
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)				
		< CAPACITOR >				
C1	1-126-968-11	ELECT	100MF	20%	50V	
C2	1-126-933-11	ELECT	100MF	20%	16V	
C3	1-126-968-11	ELECT	100MF	20%	50V	
C4	1-126-933-11	ELECT	100MF	20%	16V	
C5	1-126-968-11	ELECT	100MF	20%	50V	
C6	1-102-963-00	CERAMIC	33PF	5%	50V	
C7	1-102-963-00	CERAMIC	33PF	5%	50V	
C8	1-136-157-00	FILM	0.022MF	5%	50V	
C9	1-126-960-11	ELECT	1MF	20%	50V	
C10	1-126-968-11	ELECT	100MF	20%	50V	
C11	1-102-963-00	CERAMIC	33PF	5%	50V	
C12	1-102-963-00	CERAMIC	33PF	5%	50V	
C13	1-136-157-00	FILM	0.022MF	5%	50V	
C14	1-126-960-11	ELECT	1MF	20%	50V	
C15	1-126-968-11	ELECT	100MF	20%	50V	
C16	1-102-963-00	CERAMIC	33PF	5%	50V	
C17	1-102-963-00	CERAMIC	33PF	5%	50V	
C18	1-136-157-00	FILM	0.022MF	5%	50V	
C19	1-126-960-11	ELECT	1MF	20%	50V	
C24	1-136-165-00	FILM	0.1MF	5%	50V	
C25	1-136-165-00	FILM	0.1MF	5%	50V	
C26	1-136-165-00	FILM	0.1MF	5%	50V	
C27	1-136-165-00	FILM	0.1MF	5%	50V	
C28	1-136-165-00	FILM	0.1MF	5%	50V	
C29	1-136-165-00	FILM	0.1MF	5%	50V	
C30	1-136-165-00	FILM	0.1MF	5%	50V	
C31	1-136-165-00	FILM	0.1MF	5%	50V	
C32	1-136-165-00	FILM	0.1MF	5%	50V	
C33	1-126-964-11	ELECT	10MF	20%	50V	
C34	1-126-967-11	ELECT	47MF	20%	50V	
C35	1-126-967-11	ELECT	47MF	20%	50V	
C36	1-126-964-11	ELECT	10MF	20%	50V	
C38	1-126-960-11	ELECT	1MF	20%	50V	
C39	1-136-173-00	FILM	0.47MF	5%	50V	
C41	1-126-933-11	ELECT	100MF	20%	16V	
C42	1-126-933-11	ELECT	100MF	20%	16V	
C43	1-126-933-11	ELECT	100MF	20%	16V	
C44	1-126-933-11	ELECT	100MF	20%	16V	

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REF NO.	PART NO.	DESCRIPTION	REMARK
C45	1-126-933-11	ELECT 100MF 20% 16V	
C46	1-126-933-11	ELECT 100MF 20% 16V	
C47	1-101-004-00	CERAMIC 0.01MF 50V	
C48	1-101-004-00	CERAMIC 0.01MF 50V	
C49	1-101-004-00	CERAMIC 0.01MF 50V	
C50	1-101-004-00	CERAMIC 0.01MF 50V	
C101	1-126-964-11	ELECT 10MF 20% 50V	
C102	1-126-933-11	ELECT 100MF 20% 16V	
C103	1-126-972-11	ELECT 1000MF 20% 50V	
C104	1-126-968-11	ELECT 100MF 20% 50V	
C107	1-126-972-11	ELECT 1000MF 20% 50V	
C108	1-126-968-11	ELECT 100MF 20% 50V	
C201	1-136-153-00	FILM 0.01MF 5% 50V	
C202	1-136-153-00	FILM 0.01MF 5% 50V	
C203	1-136-153-00	FILM 0.01MF 5% 50V	
C204	1-136-153-00	FILM 0.01MF 5% 50V	
C205	1-136-153-00	FILM 0.01MF 5% 50V	
C206	1-136-153-00	FILM 0.01MF 5% 50V	
C207	1-102-973-00	CERAMIC 100PF 5% 50V	
C208	1-102-973-00	CERAMIC 100PF 5% 50V	
C209	1-102-973-00	CERAMIC 100PF 5% 50V	
C211	1-101-004-00	CERAMIC 0.01MF 50V	
C212	1-126-968-11	ELECT 100MF 20% 50V	
C213	1-101-004-00	CERAMIC 0.01MF 50V	
C215	1-126-968-11	ELECT 100MF 20% 50V	
C216	1-101-004-00	CERAMIC 0.01MF 50V	
C217	1-126-968-11	ELECT 100MF 20% 50V	
C218	1-101-004-00	CERAMIC 0.01MF 50V	
C219	1-126-968-11	ELECT 100MF 20% 50V	
C220	1-102-973-00	CERAMIC 100PF 5% 50V	
C221	1-102-973-00	CERAMIC 100PF 5% 50V	
C222	1-102-973-00	CERAMIC 100PF 5% 50V	
C226	1-102-973-00	CERAMIC 100PF 5% 50V	
C227	1-102-973-00	CERAMIC 100PF 5% 50V	
C228	1-102-973-00	CERAMIC 100PF 5% 50V	
C230	1-101-004-00	CERAMIC 0.01MF 50V	
C231	1-126-968-11	ELECT 100MF 20% 50V	
C232	1-101-004-00	CERAMIC 0.01MF 50V	
C233	1-126-968-11	ELECT 100MF 20% 50V	
C234	1-101-004-00	CERAMIC 0.01MF 50V	
C235	1-126-968-11	ELECT 100MF 20% 50V	
C236	1-101-004-00	CERAMIC 0.01MF 50V	
C237	1-126-968-11	ELECT 100MF 20% 50V	
C238	1-102-973-00	CERAMIC 100PF 5% 50V	
C239	1-102-973-00	CERAMIC 100PF 5% 50V	
C240	1-102-973-00	CERAMIC 100PF 5% 50V	
		<CONNECTOR>	
CN400	* 1-564-508-11	PLUG, CONNECTOR 5P	
CN401	* 1-564-508-11	PLUG, CONNECTOR 5P	
CN402	* 1-564-508-11	PLUG, CONNECTOR 5P	
CN403	* 1-564-515-11	PLUG, CONNECTOR 12P	
CN404	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN405	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN406	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN407	* 1-564-510-11	PLUG, CONNECTOR 7P	
CN408	* 1-564-509-11	PLUG, CONNECTOR 6P	
CN409	* 1-766-957-11	CONNECTOR, BOARD TO BOARD 20P	
CN410	* 1-766-957-11	CONNECTOR, BOARD TO BOARD 20P	

REF NO.	PART NO.	DESCRIPTION	REMARK
CN411	* 1-564-511-11	PLUG, CONNECTOR 8P	
CN412	* 1-766-957-11	CONNECTOR, BOARD TO BOARD 20P	
CN413	* 1-766-957-11	CONNECTOR, BOARD TO BOARD 20P	
CN414	* 1-564-512-11	PLUG, CONNECTOR 9P	
CN415	* 1-774-248-11	CONNECTOR, BOARD TO BOARD 8P	
CN416	* 1-774-248-11	CONNECTOR, BOARD TO BOARD 8P	
CN417	* 1-774-248-11	CONNECTOR, BOARD TO BOARD 8P	
CN418	* 1-774-249-11	CONNECTOR, BOARD TO BOARD 10P	
CN419	* 1-774-249-11	CONNECTOR, BOARD TO BOARD 10P	
CN420	* 1-774-249-11	CONNECTOR, BOARD TO BOARD 10P	
CN421	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN422	* 1-564-513-11	PLUG, CONNECTOR 10P	
CN423	* 1-774-249-11	CONNECTOR, BOARD TO BOARD 10P	
		< DIODE >	
D1	8-719-900-95	DIODE V09G	
D2	8-719-900-95	DIODE V09G	
D3	8-719-900-95	DIODE V09G	
D4	8-719-911-19	DIODE 1SS119-25	
D5	8-719-900-95	DIODE V09G	
D6	8-719-911-19	DIODE 1SS119-25	
D7	8-719-900-95	DIODE V09G	
D8	8-719-911-19	DIODE 1SS119-25	
D9	8-719-911-19	DIODE 1SS119-25	
D10	8-719-911-19	DIODE 1SS119-25	
D15	8-719-911-19	DIODE 1SS119-25	
		< IC >	
IC1	8-759-231-58	IC TA7812S	
IC2	8-759-929-65	IC LM7912CT	
IC3	8-759-145-58	IC μPC4558C	
IC4	8-759-113-13	IC μPC1498H	
IC5	8-759-145-58	IC μPC4558C	
IC6	8-759-113-13	IC μPC1498H	
IC7	8-759-145-58	IC μPC4558C	
IC8	8-759-113-13	IC μPC1498H	
IC9	8-759-145-58	IC μPC4558C	
IC10	8-759-916-40	IC SN74HC125AN	
IC11	8-759-916-16	IC SN74HC08AN	
IC12	8-759-916-16	IC SN74HC08AN	
IC13	8-759-232-85	IC TC74HC238AP	
IC201	8-759-109-82	IC μPC814C	
IC202	8-759-109-82	IC μPC814C	
IC203	8-759-109-82	IC μPC814C	
IC204	8-749-924-98	IC STK392-040	
IC205	8-749-924-98	IC STK392-040	
		< COIL >	
L100	1-459-155-00	COIL (WITH CORE) 45μH	
L101	1-459-155-00	COIL (WITH CORE) 45μH	
L102	1-459-155-00	COIL (WITH CORE) 45μH	
L103	1-459-155-00	COIL (WITH CORE) 45μH	
L104	1-459-155-00	COIL (WITH CORE) 45μH	
		< TRANSISTOR >	
Q1	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q2	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q3	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q4	8-729-030-03	TRANSISTOR DTC144ESA-TP	

REF NO.	PART NO.	DESCRIPTION				REMARK
Q5	8-729-030-03	TRANSISTOR	DTC144ESA-TP			
Q7	8-729-207-89	TRANSISTOR	2SA1358-Y			
Q9	8-729-207-82	TRANSISTOR	2SC3421-Y			
Q12	8-729-1 19-78	TRANSISTOR	2SC2785-HFE			
Q13	8-729-1 19-78	TRANSISTOR	2SC2785-HFE			
		< RESISTOR >				
R1	1-215-463-00	METAL	56K	1%	1/4W	
R2	1-215-445-00	METAL	10K	1%	1/4W	
R3	1-215-445-00	METAL	10K	1%	1/4W	
R4	1-214-800-11	METAL	2.2	1%	1/2W	
R5	1-214-800-11	METAL	2.2	1%	1/2W	
R6	1-215-429-00	METAL	2.2K	1%	1/4W	
R7	1-215-421-00	METAL	1K	1%	1/4W	
R8	1-215-892-11	METAL OXIDE	1K	5%	2W	F
R9	1-247-863-91	CARBON	22K	5%	1/4W	
R10	1-249-417-11	CARBON	1K	5%	1/4W	
R11	1-247-883-00	CARBON	150K	5%	1/4W	
R12	1-249-429-11	CARBON	10K	5%	1/4W	
R13	1-249-429-11	CARBON	10K	5%	1/4W	
R14	1-249-429-11	CARBON	10K	5%	1/4W	
R15	1-215-463-00	METAL	56K	1%	1/4W	
R16	1-215-445-00	METAL	10K	1%	1/4W	
R17	1-215-445-00	METAL	10K	1%	1/4W	
R18	1-214-800-11	METAL	2.2	1%	1/2W	
R19	1-214-800-11	METAL	2.2	1%	1/2W	
R20	1-215-429-00	METAL	2.2K	1%	1/4W	
R21	1-215-421-00	METAL	1K	1%	1/4W	
R22	1-215-892-11	METAL OXIDE	1K	5%	2W	F
R23	1-247-863-91	CARBON	22K	5%	1/4W	
R24	1-249-417-11	CARBON	1K	5%	1/4W	
R25	1-247-883-00	CARBON	150K	5%	1/4W	
R26	1-249-429-11	CARBON	10K	5%	1/4W	
R27	1-249-429-11	CARBON	10K	5%	1/4W	
R28	1-249-429-11	CARBON	10K	5%	1/4W	
R29	1-215-463-00	METAL	56K	1%	1/4W	
R30	1-215-445-00	METAL	10K	1%	1/4W	
R31	1-215-445-00	METAL	10K	1%	1/4W	
R32	1-214-800-11	METAL	2.2	1%	1/2W	
R33	1-214-800-11	METAL	2.2	1%	1/2W	
R34	1-215-429-00	METAL	2.2K	1%	1/4W	
R35	1-215-421-00	METAL	1K	1%	1/4W	
R36	1-215-892-11	METAL OXIDE	1K	5%	2W	F
R37	1-247-863-91	CARBON	22K	5%	1/4W	
R38	1-249-417-11	CARBON	1K	5%	1/4W	
R39	1-247-883-00	CARBON	150K	5%	1/4W	
R40	1-249-429-11	CARBON	10K	5%	1/4W	
R41	1-249-429-11	CARBON	10K	5%	1/4W	
R42	1-249-429-11	CARBON	10K	5%	1/4W	
R43	1-247-807-31	CARBON	100	5%	1/4W	
R46	1-247-863-91	CARBON	22K	5%	1/4W	
R47	1-247-863-91	CARBON	22K	5%	1/4W	
R48	1-249-429-11	CARBON	10K	5%	1/4W	
R49	1-249-429-11	CARBON	10K	5%	1/4W	
R50	1-249-437-11	CARBON	47K	5%	1/4W	
R63	1-216-389-11	METAL OXIDE	1	5%	3W	F
R64	1-216-389-11	METAL OXIDE	1	5%	3W	F
R65	1-249-429-11	CARBON	10K	5%	1/4W	
R66	1-249-413-11	CARBON	470	5%	1/4W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R67	1-249-429-11	CARBON	10K	5%	1/4W	
R73	1-216-389-11	METAL OXIDE	1	5%	3W	F
R74	1-216-389-11	METAL OXIDE	1	5%	3W	F
R75	1-249-429-11	CARBON	10K	5%	1/4W	
R76	1-249-413-11	CARBON	470	5%	1/4W	
R77	1-249-429-11	CARBON	10K	5%	1/4W	
R85	1-249-429-11	CARBON	10K	5%	1/4W	
R86	1-249-429-11	CARBON	10K	5%	1/4W	
R87	1-249-421-11	CARBON	2.2K	5%	1/4W	
R88	1-249-429-11	CARBON	10K	5%	1/4W	
R89	1-249-429-11	CARBON	10K	5%	1/4W	
R201	1-215-421-00	METAL	1K	1%	1/4W	
R202	1-215-421-00	METAL	1K	1%	1/4W	
R203	1-215-397-00	METAL	100	1%	1/4W	
R204	1-215-421-00	METAL	1K	1%	1/4W	
R205	1-249-413-11	CARBON	470	5%	1/4W	
R206	1-215-421-00	METAL	1K	1%	1/4W	
R207	1-215-421-00	METAL	1K	1%	1/4W	
R208	1-215-421-00	METAL	1K	1%	1/4W	
R209	1-215-397-00	METAL	100	1%	1/4W	
R210	1-249-413-11	CARBON	470	5%	1/4W	
R211	1-215-421-00	METAL	1K	1%	1/4W	
R212	1-215-421-00	METAL	1K	1%	1/4W	
R213	1-215-421-00	METAL	1K	1%	1/4W	
R214	1-215-397-00	METAL	100	1%	1/4W	
R215	1-249-413-11	CARBON	470	5%	1/4W	
R216	1-215-421-00	METAL	1K	1%	1/4W	
R217	1-215-421-00	METAL	1K	1%	1/4W	
R218	1-215-421-00	METAL	1K	1%	1/4W	
R219	1-215-397-00	METAL	100	1%	1/4W	
R220	1-249-413-11	CARBON	470	5%	1/4W	
R221	1-215-421-00	METAL	1K	1%	1/4W	
R222	1-215-421-00	METAL	1K	1%	1/4W	
R223	1-215-421-00	METAL	1K	1%	1/4W	
R224	1-215-397-00	METAL	100	1%	1/4W	
R225	1-249-413-11	CARBON	470	5%	1/4W	
R226	1-215-421-00	METAL	1K	1%	1/4W	
R227	1-215-421-00	METAL	1K	1%	1/4W	
R228	1-215-421-00	METAL	1K	1%	1/4W	
R229	1-215-397-00	METAL	100	1%	1/4W	
R230	1-249-413-11	CARBON	470	5%	1/4W	
R231	1-215-433-00	METAL	3.3K	1%	1/4W	
R232	1-215-433-00	METAL	3.3K	1%	1/4W	
R233	1-215-433-00	METAL	3.3K	1%	1/4W	
R234	1-249-405-11	CARBON	100	5%	1/4W	F
R235	1-249-405-11	CARBON	100	5%	1/4W	F
R236	1-215-433-00	METAL	3.3K	1%	1/4W	
R237	1-215-433-00	METAL	3.3K	1%	1/4W	
R238	1-215-433-00	METAL	3.3K	1%	1/4W	
R242	1-214-812-00	METAL	6.8	1%	1/2W	
R243	1-214-812-00	METAL	6.8	1%	1/2W	
R244	1-214-812-00	METAL	6.8	1%	1/2W	
R245	1-214-812-00	METAL	6.8	1%	1/2W	
R246	1-214-812-00	METAL	6.8	1%	1/2W	
R247	1-214-812-00	METAL	6.8	1%	1/2W	
R248	1-214-812-00	METAL	6.8	1%	1/2W	
R249	1-214-812-00	METAL	6.8	1%	1/2W	
R250	1-214-812-00	METAL	6.8	1%	1/2W	
R251	1-214-812-00	METAL	6.8	1%	1/2W	

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REF NO.	PART NO.	DESCRIPTION				REMARK
R252	1-214-812-00	METAL	6.8	1%	1/2W	
R253	1-214-812-00	METAL	6.8	1%	1/2W	
R254	1-214-812-00	METAL	6.8	1%	1/2W	
R255	1-214-812-00	METAL	6.8	1%	1/2W	
R256	1-214-812-00	METAL	6.8	1%	1/2W	
R257	1-214-812-00	METAL	6.8	1%	1/2W	
R258	1-214-812-00	METAL	6.8	1%	1/2W	
R259	1-214-812-00	METAL	6.8	1%	1/2W	
R260	1-215-886-11	METAL OXIDE	100	5%	2W	F
R261	1-215-886-11	METAL OXIDE	100	5%	2W	F
R262	1-215-886-11	METAL OXIDE	100	5%	2W	F
R263	1-215-433-00	METAL	3.3K	1%	1/4W	
R264	1-215-433-00	METAL	3.3K	1%	1/4W	
R265	1-215-433-00	METAL	3.3K	1%	1/4W	
R266	1-249-405-11	CARBON	100	5%	1/4W	F
R267	1-249-405-11	CARBON	100	5%	1/4W	F
R268	1-215-433-00	METAL	3.3K	1%	1/4W	
R269	1-215-433-00	METAL	3.3K	1%	1/4W	
R270	1-215-433-00	METAL	3.3K	1%	1/4W	
R274	1-214-814-11	METAL	8.2	1%	1/2W	
R275	1-214-814-11	METAL	8.2	1%	1/2W	
R276	1-214-814-11	METAL	8.2	1%	1/2W	
R277	1-214-814-11	METAL	8.2	1%	1/2W	
R278	1-214-814-11	METAL	8.2	1%	1/2W	
R279	1-214-814-11	METAL	8.2	1%	1/2W	
R280	1-214-814-11	METAL	8.2	1%	1/2W	
R281	1-214-814-11	METAL	8.2	1%	1/2W	
R282	1-214-814-11	METAL	8.2	1%	1/2W	
R283	1-214-814-11	METAL	8.2	1%	1/2W	
R284	1-214-814-11	METAL	8.2	1%	1/2W	
R285	1-214-814-11	METAL	8.2	1%	1/2W	
R286	1-214-814-11	METAL	8.2	1%	1/2W	
R287	1-214-814-11	METAL	8.2	1%	1/2W	
R288	1-214-814-11	METAL	8.2	1%	1/2W	
R289	1-214-814-11	METAL	8.2	1%	1/2W	
R290	1-214-814-11	METAL	8.2	1%	1/2W	
R291	1-214-814-11	METAL	8.2	1%	1/2W	
R292	1-215-886-11	METAL OXIDE	100	5%	2W	F
R293	1-215-886-11	METAL OXIDE	100	5%	2W	F
R294	1-215-886-11	METAL OXIDE	100	5%	2W	F
R295	1-215-397-00	METAL	100	1%	1/4W	
R296	1-215-397-00	METAL	100	1%	1/4W	
R297	1-215-397-00	METAL	100	1%	1/4W	
R298	1-215-397-00	METAL	100	1%	1/4W	
R299	1-215-397-00	METAL	100	1%	1/4W	
R300	1-215-397-00	METAL	100	1%	1/4W	

< RELAY >

REF NO.	PART NO.	DESCRIPTION	REMARK
RY1	1-515-716-11	RELAY (TQ2-5V)	
RY2	1-515-716-11	RELAY (TQ2-5V)	
RY3	1-515-716-11	RELAY (TQ2-5V)	

< TEST PIN >

REF NO.	PART NO.	DESCRIPTION	REMARK
TP1	1-537-864-11	PIN, POST	
TP2	1-537-864-11	PIN, POST	
TP3	1-537-864-11	PIN, POST	
TP7	1-537-864-11	PIN, POST	
TP9	1-537-864-11	PIN, POST	
TP201	1-537-864-11	PIN, POST	
TP202	1-537-864-11	PIN, POST	
TP203	1-537-864-11	PIN, POST	
TP204	1-537-864-11	PIN, POST	
TP205	1-537-864-11	PIN, POST	
TP206	1-537-864-11	PIN, POST	

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REF NO.	PART NO.	DESCRIPTION	REMARK
	* A-1346-522-A	DA COMPLETE PC BOARD ************************	
	3-899-248-11	SCREW (M3X8)	
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)	

< CAPACITOR >

REF NO.	PART NO.	DESCRIPTION				REMARK
C1	1-126-933-11	ELECT	100MF	20%	16V	
C2	1-126-933-11	ELECT	100MF	20%	16V	
C3	1-126-933-11	ELECT	100MF	20%	16V	
C4	1-126-933-11	ELECT	100MF	20%	16V	
C5	1-126-967-11	ELECT	47MF	20%	16V	
C6	1-126-967-11	ELECT	47MF	20%	16V	
C7	1-126-967-11	ELECT	47MF	20%	16V	
C9	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C17	1-126-935-11	ELECT	470MF	20%	16V	
C18	1-126-935-11	ELECT	470MF	20%	16V	
C19	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C20	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C21	1-126-960-11	ELECT	1MF	20%	50V	
C22	1-126-960-11	ELECT	1MF	20%	50V	
C24	1-136-153-00	FILM	0.01MF	5%	50V	
C25	1-136-165-00	FILM	0.1MF	5%	50V	
C26	1-126-963-11	ELECT	4.7MF	20%	50V	
C27	1-126-960-11	ELECT	1MF	20%	50V	
C28	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C29	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C30	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C31	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C32	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C33	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C34	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C35	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C36	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C37	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C38	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C39	1-126-514-11	ELECT	22MF	20%	16V	
C40	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C41	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C42	1-126-096-11	ELECT	10MF	20%	25V	
C43	1-126-096-11	ELECT	10MF	20%	25V	
C44	1-126-096-11	ELECT	10MF	20%	25V	
C45	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C46	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C47	1-126-096-11	ELECT	10MF	20%	25V	
C48	1-126-096-11	ELECT	10MF	20%	25V	
C49	1-126-096-11	ELECT	10MF	20%	25V	
C50	1-126-096-11	ELECT	10MF	20%	25V	
C51	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C52	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C53	1-126-096-11	ELECT	10MF	20%	25V	
C54	1-126-096-11	ELECT	10MF	20%	25V	

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REF NO.	PART NO.	DESCRIPTION			REMARK
C55	1-126-096-11	ELECT	10MF	20%	25V
C56	1-126-096-11	ELECT	10MF	20%	25V
C57	1-126-096-11	ELECT	10MF	20%	25V
C58	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C59	1-126-096-11	ELECT	10MF	20%	25V
C60	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C61	1-136-153-00	FILM	0.01MF	5%	50V
C62	1-107-715-11	ELECT	22MF	20%	16V
C64	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C65	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C66	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C67	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C68	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C69	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C70	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C71	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C72	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C73	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C75	1-126-960-11	ELECT	1MF	20%	50V
C76	1-126-963-11	ELECT	4.7MF	20%	50V
C77	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C78	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C79	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C201	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C202	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C203	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C204	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C205	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C206	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C207	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C208	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C209	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C210	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C211	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C212	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C213	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C214	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C215	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C216	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C217	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C218	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C219	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C301	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C302	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C303	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C304	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C305	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C306	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C307	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C308	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C309	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C310	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C311	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C312	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C313	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C314	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C315	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C316	1-163-031-11	CERAMIC CHIP	0.01MF		50V

REF NO.	PART NO.	DESCRIPTION		REMARK
C317	1-163-031-11	CERAMIC CHIP	0.01MF	50V
C318	1-163-031-11	CERAMIC CHIP	0.01MF	50V
		< CONNECTOR>		
CN451	* 1-770-734-11	CONNECTOR, BOARD TO BOARD 20P		
CN452	* 1-770-734-11	CONNECTOR, BOARD TO BOARD 20P		
		< DIODE >		
D1	8-719-900-95	DIODE V09G		
D2	8-719-900-95	DIODE V09G		
D3	8-719-900-95	DIODE V09G		
D4	8-719-911-19	DIODE 1SS119-25		
D5	8-719-801-78	DIODE 1SS184		
D6	8-719-801-78	DIODE 1SS184		
		< IC >		
IC1	8-759-144-82	IC μPC2405HF		
IC2	8-759-247-67	IC LM2990T-5.0		
IC3	8-759-979-68	IC LM2931Z-5.0		
IC4	8-759-443-72	IC RH5VL43AA-T1		
IC5	8-759-908-15	IC TL431CLP		
IC6	8-759-925-90	IC SN74HC74ANS		
IC7	8-752-033-65	IC CXA1158P		
IC8	8-759-925-74	IC SN74HC04ANS		
IC9	8-759-381-53	IC μPC814G2-E2		
IC10	8-759-381-53	IC μPC814G2-E2		
IC11	8-759-381-53	IC μPC814G2-E2		
IC12	8-759-381-53	IC μPC814G2-E2		
IC13	8-759-381-53	IC μPC814G2-E2		
IC14	8-759-100-96	IC μPC4558G2		
IC15	8-759-381-53	IC μPC814G2-E2		
IC16	8-759-381-53	IC μPC814G2-E2		
IC17	8-752-068-37	IC CXA1726AM		
IC18	8-759-381-53	IC μPC814G2-E2		
IC19	8-759-381-53	IC μPC814G2-E2		
IC20	8-759-381-53	IC μPC814G2-E2		
IC21	8-759-381-53	IC μPC814G2-E2		
IC22	8-759-381-53	IC μPC814G2-E2		
IC201	8-759-326-65	IC MP7670AS-TE2		
IC202	8-759-326-65	IC MP7670AS-TE2		
IC203	8-759-326-65	IC MP7670AS-TE2		
IC204	8-759-326-65	IC MP7670AS-TE2		
IC205	8-759-326-65	IC MP7670AS-TE2		
IC206	8-759-326-65	IC MP7670AS-TE2		
IC207	8-759-326-65	IC MP7670AS-TE2		
IC208	8-759-326-65	IC MP7670AS-TE2		
IC209	8-759-326-65	IC MP7670AS-TE2		
IC301	8-759-326-65	IC MP7670AS-TE2		
IC302	8-759-326-65	IC MP7670AS-TE2		
IC303	8-759-326-65	IC MP7670AS-TE2		
IC304	8-759-326-65	IC MP7670AS-TE2		
IC305	8-759-326-65	IC MP7670AS-TE2		
IC306	8-759-326-65	IC MP7670AS-TE2		
IC307	8-759-326-65	IC MP7670AS-TE2		
IC308	8-759-326-65	IC MP7670AS-TE2		
		< COIL >		
L1	1-412-533-21	INDUCTOR	47μH	

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REF NO.	PART NO.	DESCRIPTION				REMARK
L2	1-412-533-21	INDUCTOR	47μH			
L3	1-412-062-11	INDUCTOR CHIP	47μH			
L4	1-412-062-11	INDUCTOR CHIP	47μH			
		< TRANSISTOR >				
Q1	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q2	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q3	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q4	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q5	8-729-926-23	TRANSISTOR	FMW5			
Q6	8-729-216-22	TRANSISTOR	2SA1162-G			
Q7	8-729-902-96	TRANSISTOR	FMS1			
Q8	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q9	8-729-926-23	TRANSISTOR	FMW5			
Q10	8-729-216-22	TRANSISTOR	2SA1162-G			
Q11	8-729-902-96	TRANSISTOR	FMS1			
Q12	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q13	8-729-902-96	TRANSISTOR	FMS1			
Q14	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q15	8-729-926-23	TRANSISTOR	FMW5			
Q16	8-729-216-22	TRANSISTOR	2SA1162-G			
Q17	8-729-902-96	TRANSISTOR	FMS1			
Q18	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q19	8-729-926-23	TRANSISTOR	FMW5			
Q20	8-729-216-22	TRANSISTOR	2SA1162-G			
Q22	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
		< RESISTOR >				
R1	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R2	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R3	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R4	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R5	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R6	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R7	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R8	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R9	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R10	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R11	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R12	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R13	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R14	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R15	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R16	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R17	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R29	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R30	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R31	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R32	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R33	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R34	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R35	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R36	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R37	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R38	1-218-760-11	METAL CHIP	220K	0.50%	1/10W	
R39	1-216-681-11	METAL CHIP	18K	0.50%	1/10W	
R40	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R41	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R42	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R43	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R44	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R45	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R46	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R47	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R48	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R49	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R50	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R51	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R52	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R53	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R54	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R55	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R56	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R57	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R58	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R59	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R60	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R61	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R62	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R63	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R64	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R65	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R66	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R67	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R68	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R69	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R70	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R71	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R72	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R73	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R74	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R75	1-216-664-11	METAL CHIP	3.6K	0.50%	1/10W	
R76	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R77	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R78	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R79	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R80	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R81	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R82	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R83	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R84	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R85	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R86	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R87	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R88	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R89	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R90	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R91	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R92	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R93	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R94	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R95	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R96	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R97	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R98	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R99	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R100	1-216-627-11	METAL CHIP	100	0.50%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R101	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R102	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R103	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R104	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R105	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R106	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R107	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R108	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R109	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R110	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R111	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R112	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R113	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R114	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R115	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R116	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R117	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R118	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R119	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R120	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R121	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R122	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R123	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R124	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R125	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R126	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R127	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R128	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R129	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R130	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R131	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R132	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R133	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R134	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R135	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R136	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R137	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R138	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R139	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R140	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R141	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R142	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R143	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R144	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R145	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R146	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R147	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R148	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R156	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R157	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R158	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R159	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R160	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R161	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R162	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R163	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R164	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R165	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R166	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R167	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R168	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R169	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R170	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R171	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R172	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R173	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R174	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R175	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R176	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R177	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R178	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R179	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R180	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R181	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R182	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R183	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R188	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R189	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R190	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R191	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R192	1-217-671-11	METAL GLAZE	1	5%	1/10W	
R193	1-217-671-11	METAL GLAZE	1	5%	1/10W	
R194	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R195	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R196	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R197	1-215-397-00	METAL	100	1%	1/4W	
R201	1-216-611-11	METAL CHIP	22	0.50%	1/10W	
R202	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R203	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R204	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R205	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R206	1-218-770-11	METAL CHIP	560K	0.50%	1/10W	
R207	1-218-770-11	METAL CHIP	560K	0.50%	1/10W	
R208	1-218-770-11	METAL CHIP	560K	0.50%	1/10W	
R209	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R210	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R211	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R212	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R213	1-218-756-11	METAL CHIP	150K	0.50%	1/10W	
R214	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R215	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R216	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R217	1-218-764-11	METAL CHIP	330K	0.50%	1/10W	
R218	1-218-764-11	METAL CHIP	330K	0.50%	1/10W	
R219	1-218-764-11	METAL CHIP	330K	0.50%	1/10W	
R220	1-216-676-11	METAL CHIP	11K	0.50%	1/10W	
R221	1-216-676-11	METAL CHIP	11K	0.50%	1/10W	
R222	1-216-676-11	METAL CHIP	11K	0.50%	1/10W	
R223	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R224	1-216-697-91	METAL CHIP	82K	0.50%	1/10W	
R225	1-218-762-11	METAL CHIP	270K	0.50%	1/10W	
R226	1-218-762-11	METAL CHIP	270K	0.50%	1/10W	
R227	1-216-697-91	METAL CHIP	82K	0.50%	1/10W	
R229	1-216-697-91	METAL CHIP	82K	0.50%	1/10W	
R230	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R231	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R232	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	

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REF NO.	PART NO.	DESCRIPTION				REMARK
R233	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R234	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R235	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R236	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R237	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R238	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R239	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R240	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R241	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R242	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R243	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R244	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R245	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W	
R246	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W	
R247	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W	
R248	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R249	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R250	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R251	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R252	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R253	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R254	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R255	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R256	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R257	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R258	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R259	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R260	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R261	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R262	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R263	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R264	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R265	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R266	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R267	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R268	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R269	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R270	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R271	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R272	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R273	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R274	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R275	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R276	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R277	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R278	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R279	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R280	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R281	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R282	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R283	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R284	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R285	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R286	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R287	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R288	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R289	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R290	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R291	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R292	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R293	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R294	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R295	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R296	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R301	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R302	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R303	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R304	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R305	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R306	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R307	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R308	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R309	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R310	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R311	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R312	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R313	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R314	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R315	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R316	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R317	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R318	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R319	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R320	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R321	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R322	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R323	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R324	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R325	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R326	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R327	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R328	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R329	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R330	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R331	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R332	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R333	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R334	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R335	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R336	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R337	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R338	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R339	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R340	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R341	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R342	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R343	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R344	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R345	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R346	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R347	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R348	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R349	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R350	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R351	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R352	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R353	1-216-627-11	METAL CHIP	100	0.50%	1/10W	

REF NO.	PART NO.	DESCRIPTION			REMARK
R354	1-216-691-11	METAL CHIP	47K	0.50%	1/10W
R355	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R356	1-216-691-11	METAL CHIP	47K	0.50%	1/10W
R357	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R358	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R359	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R360	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R361	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R362	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R363	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R364	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R365	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R366	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R367	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R368	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R369	1-216-691-11	METAL CHIP	47K	0.50%	1/10W
R370	1-216-691-11	METAL CHIP	47K	0.50%	1/10W
R371	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R372	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R373	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R374	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R375	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R376	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R377	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R378	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R379	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R380	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R381	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R382	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R383	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R384	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R385	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R386	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R387	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R388	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R389	1-216-049-91	METAL GLAZE	1K	5%	1/10W

< VARIABLE RESISTOR >

REF NO.	PART NO.	DESCRIPTION
RV1	1-238-790-11	RES, ADJ, CERMET 100K
RV2	1-238-792-11	RES, ADJ, CERMET 500K

< SWITCH >

REF NO.	PART NO.	DESCRIPTION
S1	1-570-865-11	SWITCH, SLIDE

< TEST PIN >

REF NO.	PART NO.	DESCRIPTION
TP1	* 1-535-877-22	CHIP, CHECKER
TP2	* 1-535-877-22	CHIP, CHECKER
TP3	* 1-535-877-22	CHIP, CHECKER
TP4	* 1-535-877-22	CHIP, CHECKER
TP6	* 1-535-877-22	CHIP, CHECKER
TP7	* 1-535-877-22	CHIP, CHECKER
TP8	* 1-535-877-22	CHIP, CHECKER
TP9	* 1-535-877-22	CHIP, CHECKER
TP10	* 1-535-877-22	CHIP, CHECKER
TP11	* 1-535-877-22	CHIP, CHECKER
TP12	* 1-535-877-22	CHIP, CHECKER
TP13	* 1-535-877-22	CHIP, CHECKER
TP14	* 1-535-877-22	CHIP, CHECKER
TP15	* 1-535-877-22	CHIP, CHECKER
TP16	* 1-535-877-22	CHIP, CHECKER
TP17	* 1-535-877-22	CHIP, CHECKER
TP18	* 1-535-877-22	CHIP, CHECKER
TP19	* 1-535-877-22	CHIP, CHECKER
TP20	* 1-535-877-22	CHIP, CHECKER
TP21	* 1-535-877-22	CHIP, CHECKER
TP22	* 1-535-877-22	CHIP, CHECKER
TP23	* 1-535-877-22	CHIP, CHECKER
TP24	* 1-535-877-22	CHIP, CHECKER
TP25	* 1-535-877-22	CHIP, CHECKER
TP26	* 1-535-877-22	CHIP, CHECKER
TP27	* 1-535-877-22	CHIP, CHECKER
TP28	* 1-535-877-22	CHIP, CHECKER

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* A-1346-523-A DB COMPLETE PC BOARD

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3-899-248-11 SCREW (M3X8)

< CAPACITOR >

REF NO.	PART NO.	DESCRIPTION			REMARK
C401	1-126-933-11	ELECT	100MF	20%	16V
C402	1-126-933-11	ELECT	100MF	20%	16V
C403	1-126-933-11	ELECT	100MF	20%	16V
C404	1-126-933-11	ELECT	100MF	20%	16V
C405	1-126-967-11	ELECT	47MF	20%	16V
C406	1-126-096-11	ELECT	10MF	20%	25V
C407	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C408	1-126-096-11	ELECT	10MF	20%	25V
C409	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C410	1-126-096-11	ELECT	10MF	20%	25V
C411	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C412	1-126-096-11	ELECT	10MF	20%	25V
C413	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C414	1-126-096-11	ELECT	10MF	20%	25V
C415	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C416	1-126-096-11	ELECT	10MF	20%	25V
C417	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C418	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C419	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C420	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C421	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C422	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C423	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C442	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C501	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C502	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C503	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C504	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C505	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C506	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C507	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C508	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C509	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C510	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C511	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C512	1-163-031-11	CERAMIC CHIP	0.01MF		50V

DB

REF NO.	PART NO.	DESCRIPTION			REMARK
C601	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C602	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C603	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C604	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C605	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C606	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C607	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C608	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C609	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C610	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C611	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C612	1-163-031-11	CERAMIC CHIP	0.01MF		50V
		< CONNECTOR>			
CN461	* 1-770-734-11	CONNECTOR, BOARD TO BOARD 20P			
CN462	* 1-770-734-11	CONNECTOR, BOARD TO BOARD 20P			
		< DIODE >			
D401	8-719-900-95	DIODE V09G			
D402	8-719-900-95	DIODE V09G			
D403	8-719-911-19	DIODE 1SS119-25			
		< IC >			
IC401	8-759-144-82	IC µPC2405HF			
IC402	8-759-247-67	IC LM2990T-5.0			
IC403	8-759-443-72	IC RH5VL43AA-T1			
IC404	8-752-068-37	IC CXA1726AM			
IC405	8-752-068-37	IC CXA1726AM			
IC406	8-752-068-37	IC CXA1726AM			
IC407	8-759-381-53	IC µPC814G2-E2			
IC408	8-759-381-53	IC µPC814G2-E2			
IC409	8-759-381-53	IC µPC814G2-E2			
IC501	8-759-326-65	IC MP7670AS-TE2			
IC502	8-759-326-65	IC MP7670AS-TE2			
IC503	8-759-326-65	IC MP7670AS-TE2			
IC504	8-759-326-65	IC MP7670AS-TE2			
IC505	8-759-326-65	IC MP7670AS-TE2			
IC506	8-759-326-65	IC MP7670AS-TE2			
IC601	8-759-326-65	IC MP7670AS-TE2			
IC602	8-759-326-65	IC MP7670AS-TE2			
IC603	8-759-326-65	IC MP7670AS-TE2			
IC604	8-759-326-65	IC MP7670AS-TE2			
IC605	8-759-326-65	IC MP7670AS-TE2			
IC606	8-759-326-65	IC MP7670AS-TE2			
		< COIL >			
L401	1-412-533-21	INDUCTOR	47µH		
L402	1-412-533-21	INDUCTOR	47µH		
		< RESISTOR >			
R401	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R402	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R403	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R404	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R405	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R406	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R407	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R408	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R409	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R410	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R411	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R412	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R413	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R414	1-216-025-91	METAL GLAZE	100	5%	1/10W
R415	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R416	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R417	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R418	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R419	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R420	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R421	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R422	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R423	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R424	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R425	1-216-025-91	METAL GLAZE	100	5%	1/10W
R426	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R427	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R428	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R429	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R430	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R431	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R432	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R433	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R434	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R435	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R436	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R437	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R438	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R439	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R440	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R441	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R442	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R443	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R444	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R445	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R446	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R447	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R448	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R449	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R450	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R451	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R452	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R453	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R454	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R455	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R456	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R457	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R458	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R459	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R460	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R461	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R462	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R463	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R464	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R465	1-216-025-91	METAL GLAZE	100	5%	1/10W
R466	1-216-025-91	METAL GLAZE	100	5%	1/10W

REF NO.	PART NO.	DESCRIPTION				REMARK
R467	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R468	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R501	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R502	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R503	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R504	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R505	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R506	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R507	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R508	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R509	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R510	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R511	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R512	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R513	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R514	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R515	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R516	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R517	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R518	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R519	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R520	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R521	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R522	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R523	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R524	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R525	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R526	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R527	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R528	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R529	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R530	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R531	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R532	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R533	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R534	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R535	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R536	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R537	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R538	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R539	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R540	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R541	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R542	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R543	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R544	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R545	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R546	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R547	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R548	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R549	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R550	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R551	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R552	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R553	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R554	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R601	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R602	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R603	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R604	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R605	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R606	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R607	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R608	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R609	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R610	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R611	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R612	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R613	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R614	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R615	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R616	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R617	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R618	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R619	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R620	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R621	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R622	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R623	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R624	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R625	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R626	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R627	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R628	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R629	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R630	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R631	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R632	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R633	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R634	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R635	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R636	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R637	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R638	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R639	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R640	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R641	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R642	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R643	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R644	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R645	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R646	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R647	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R648	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R649	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R650	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R651	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R652	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R653	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R654	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R703	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
		< VARIABLE RESISTOR >				
RV401	1-238-789-11	RES, ADJ, CERMET 50K				
RV402	1-238-789-11	RES, ADJ, CERMET 50K				
RV403	1-238-789-11	RES, ADJ, CERMET 50K				

< TEST PIN >

REF NO.	PART NO.	DESCRIPTION	REMARK
TP401	* 1-535-877-22	CHIP, CHECKER	
TP402	* 1-535-877-22	CHIP, CHECKER	
TP403	* 1-535-877-22	CHIP, CHECKER	
TP404	* 1-535-877-22	CHIP, CHECKER	
TP405	* 1-535-877-22	CHIP, CHECKER	
TP406	* 1-535-877-22	CHIP, CHECKER	
TP407	* 1-535-877-22	CHIP, CHECKER	
TP408	* 1-535-877-22	CHIP, CHECKER	
TP409	* 1-535-877-22	CHIP, CHECKER	
TP410	* 1-535-877-22	CHIP, CHECKER	
TP411	* 1-535-877-22	CHIP, CHECKER	
TP412	* 1-535-877-22	CHIP, CHECKER	
TP413	* 1-535-877-22	CHIP, CHECKER	
TP414	* 1-535-877-22	CHIP, CHECKER	
TP415	* 1-535-877-22	CHIP, CHECKER	
TP416	* 1-535-877-22	CHIP, CHECKER	
TP417	* 1-535-877-22	CHIP, CHECKER	
TP418	* 1-535-877-22	CHIP, CHECKER	
TP419	* 1-535-877-22	CHIP, CHECKER	
TP420	* 1-535-877-22	CHIP, CHECKER	
TP421	* 1-535-877-22	CHIP, CHECKER	
TP422	* 1-535-877-22	CHIP, CHECKER	

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* A-1343-175-A DFH MOUNTED PC BOARD

< CAPACITOR >

REF NO.	PART NO.	DESCRIPTION				REMARK
C551	1-124-234-00	ELECT	22MF	20%	16V	
C552	1-124-234-00	ELECT	22MF	20%	16V	
C553	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
C554	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C556	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C557	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C558	1-163-245-11	CERAMIC CHIP	56PF	5%	50V	
C559	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V	
C560	1-164-695-11	CERAMIC CHIP	0.0022MF	5%	50V	
C561	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
C562	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C563	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
C564	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C565	1-163-031-11	CERAMIC CHIP	0.01MF		50V	

< CONNECTOR>

REF NO.	PART NO.	DESCRIPTION	REMARK
CN551	* 1-774-245-11	CONNECTOR, BOARD TO BOARD 8P	

< IC >

REF NO.	PART NO.	DESCRIPTION	REMARK
IC551	8-759-984-88	IC LM6361M	
IC552	8-759-984-88	IC LM6361M	

< RESISTOR >

REF NO.	PART NO.	DESCRIPTION				REMARK
R551	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R552	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R554	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R555	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R556	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R557	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R559	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R560	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R561	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	

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* A-1343-176-A DFV MOUNTED PC BOARD

< CAPACITOR >

REF NO.	PART NO.	DESCRIPTION				REMARK
C501	1-124-234-00	ELECT	22MF	20%	16V	
C502	1-124-234-00	ELECT	22MF	20%	16V	
C503	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
C504	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C506	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C507	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C508	1-163-245-11	CERAMIC CHIP	56PF	5%	50V	
C509	1-163-139-00	CERAMIC CHIP	820PF	5%	50V	
C510	1-164-695-11	CERAMIC CHIP	0.0022MF	5%	50V	
C511	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
C512	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C513	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
C514	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C515	1-163-031-11	CERAMIC CHIP	0.01MF		50V	

< CONNECTOR>

REF NO.	PART NO.	DESCRIPTION	REMARK
CN501	* 1-774-246-11	CONNECTOR, BOARD TO BOARD 10P	

< IC >

REF NO.	PART NO.	DESCRIPTION	REMARK
IC501	8-759-984-88	IC LM6361M	
IC502	8-759-984-88	IC LM6361M	

< RESISTOR >

REF NO.	PART NO.	DESCRIPTION				REMARK
R501	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R502	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R504	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R505	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R506	1-216-645-11	METAL CHIP	560	0.50%	1/10W	
R507	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R509	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R510	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R511	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	

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* A-1343-251-A DP MOUNTED PC BOARD

< CAPACITOR >

REF NO.	PART NO.	DESCRIPTION				REMARK
C601	1-126-096-11	ELECT	10MF	20%	25V	
C602	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C603	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C604	1-126-096-11	ELECT	10MF	20%	25V	
C605	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C606	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C607	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C608	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C609	1-126-096-11	ELECT	10MF	20%	25V	
C610	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C611	1-163-031-11	CERAMIC CHIP	0.01MF		50V	

REF NO.	PART NO.	DESCRIPTION				REMARK
		< CONNECTOR>				
CN599	* 1-774-246-11	CONNECTOR, BOARD TO BOARD 10P				
		< DIODE >				
D601	8-719-105-82	DIODE RD5.1M-B2				
D602	8-719-105-82	DIODE RD5.1M-B2				
D603	8-719-105-82	DIODE RD5.1M-B2				
D604	8-719-105-82	DIODE RD5.1M-B2				
		< IC >				
IC601	8-759-100-93	IC µPC393G2				
IC602	8-759-100-93	IC µPC393G2				
		< TRANSISTOR >				
Q601	8-729-027-59	TRANSISTOR DTC144EKA-T146				
Q602	8-729-027-59	TRANSISTOR DTC144EKA-T146				
		< RESISTOR >				
R601	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R602	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R603	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R604	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R605	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R606	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R607	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R608	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R609	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R610	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R611	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R612	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R613	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R614	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R615	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R616	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R617	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R618	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R619	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R620	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R621	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R622	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R623	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R624	1-216-025-91	METAL GLAZE	100	5%	1/10W	

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REF NO.	PART NO.	DESCRIPTION				REMARK
	* A-1346-524-A	E COMPLETE PC BOARD **********************				
	3-899-248-11	SCREW (M3X8)				
	4-058-217-01	CUSHION				
	* 4-395-527-01	HOLDER (B), TR (Q1, 3, 5)				
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)				
		< CAPACITOR >				
C1	1-126-899-11	ELECT	3900MF	20%	16V	
C2	1-126-899-11	ELECT	3900MF	20%	16V	
C3	1-126-899-11	ELECT	3900MF	20%	16V	
C4	1-102-824-00	CERAMIC	470PF	5%	50V	
C5	1-136-153-00	FILM	0.01MF	5%	50V	
C6	1-102-824-00	CERAMIC	470PF	5%	50V	
C7	1-102-824-00	CERAMIC	470PF	5%	50V	
C8	1-136-153-00	FILM	0.01MF	5%	50V	
C9	1-102-824-00	CERAMIC	470PF	5%	50V	
C10	1-136-153-00	FILM	0.01MF	5%	50V	
C11	1-102-824-00	CERAMIC	470PF	5%	50V	
C12	1-102-824-00	CERAMIC	470PF	5%	50V	
C13	1-117-442-11	FILM	3900PF	3%	2.5KV	
C14	1-117-442-11	FILM	3900PF	3%	2.5KV	
C21	1-136-945-11	FILM	8.2MF	5%	200V	
C22	1-136-945-11	FILM	8.2MF	5%	200V	
C23	1-136-945-11	FILM	8.2MF	5%	200V	
C24	1-136-945-11	FILM	8.2MF	5%	200V	
C36	1-162-115-00	CERAMIC	330PF	10%	2KV	
C37	1-162-115-00	CERAMIC	330PF	10%	2KV	
C38	1-162-115-00	CERAMIC	330PF	10%	2KV	
C102	1-136-153-00	FILM	0.01MF	5%	50V	
C110	1-126-933-11	ELECT	100MF	20%	16V	
C111	1-126-933-11	ELECT	100MF	20%	16V	
C112	1-126-933-11	ELECT	100MF	20%	16V	
C113	1-126-965-11	ELECT	22MF	20%	50V	
C120	1-107-746-11	ELECT	10MF	20%	200V	
C128	1-107-746-11	ELECT	10MF	20%	200V	
C129	1-107-746-11	ELECT	10MF	20%	200V	
C134	1-104-665-11	ELECT	100MF	20%	25V	
C135	1-104-665-11	ELECT	100MF	20%	25V	
C142	1-125-538-11	ELECT(BLOCK)	1000MF	20%	200V	
C143	1-102-824-00	CERAMIC	470PF	5%	50V	
C144	1-136-165-00	FILM	0.1MF	5%	50V	
C145	1-136-153-00	FILM	0.01MF	5%	50V	
C146	1-136-173-00	FILM	0.47MF	5%	50V	
C147	1-136-173-00	FILM	0.47MF	5%	50V	
C149	1-126-964-11	ELECT	10MF	20%	50V	
C153	1-126-965-11	ELECT	22MF	20%	50V	
C154	1-136-165-00	FILM	0.1MF	5%	50V	
C155	1-136-153-00	FILM	0.01MF	5%	50V	
C156	1-136-165-00	FILM	0.1MF	5%	50V	
C158	1-104-965-11	ELECT	10MF	0	160V	
C160	1-136-111-00	FILM	1MF	5%	200V	
C161	1-126-960-11	ELECT	1MF	20%	50V	
C162	1-136-111-00	FILM	1MF	5%	200V	
C164	1-126-964-11	ELECT	10MF	20%	50V	
C166	1-126-964-11	ELECT	10MF	20%	50V	
C167	1-102-824-00	CERAMIC	470PF	5%	50V	
C175	1-136-722-11	FILM	0.008MF	3%	1.6KV	
C176	1-104-999-11	MYLAR	0.1MF	10%	200V	
C177	1-126-964-11	ELECT	10MF	20%	50V	
C181	1-126-968-11	ELECT	100MF	20%	50V	
C182	1-126-968-11	ELECT	100MF	20%	50V	
C301	1-126-964-11	ELECT	10MF	20%	50V	
C302	1-126-969-11	ELECT	220MF	20%	50V	
C351	1-126-960-11	ELECT	1MF	20%	50V	
C401	1-126-771-11	ELECT	100MF	20%	160V	
		< CONNECTOR>				
CN501	* 1-564-514-11	PLUG, CONNECTOR 11P				
CN502	* 1-564-510-11	PLUG, CONNECTOR 7P				
CN503	* 1-564-509-11	PLUG, CONNECTOR 6P				
CN504	* 1-564-514-11	PLUG, CONNECTOR 11P				

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REF NO.	PART NO.	DESCRIPTION	REMARK
CN505	* 1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
CN506	* 1-580-798-11	CONNECTOR PIN (DY) 6P	
CN507	* 1-580-798-11	CONNECTOR PIN (DY) 6P	
CN508	* 1-580-798-11	CONNECTOR PIN (DY) 6P	
CN509	* 1-564-514-11	PLUG, CONNECTOR 11P	
CN510	* 1-564-512-11	PLUG, CONNECTOR 9P	
CN511	* 1-766-957-11	CONNECTOR, BOARD TO BOARD 20P	
CN512	* 1-766-957-11	CONNECTOR, BOARD TO BOARD 20P	
CN513	* 1-564-509-11	PLUG, CONNECTOR 6P	
		< DIODE >	
D1	8-719-061-87	DIODE FMP-G5FS	
D2	8-719-054-88	DIODE DFC15TR	
D3	8-719-054-88	DIODE DFC15TR	
D4	8-719-054-88	DIODE DFC15TR	
D5	8-719-054-88	DIODE DFC15TR	
D6	8-719-054-88	DIODE DFC15TR	
D7	8-719-054-88	DIODE DFC15TR	
D103	8-719-911-19	DIODE 1SS119-25	
D104	8-719-911-19	DIODE 1SS119-25	
D105	8-719-948-45	DIODE ERA22-08	
D106	8-719-948-45	DIODE ERA22-08	
D109	8-719-948-45	DIODE ERA22-08	
D110	8-719-911-19	DIODE 1SS119-25	
D111	8-719-911-19	DIODE 1SS119-25	
D113	8-719-911-19	DIODE 1SS119-25	
D114	8-719-110-53	DIODE RD20ESB2	
D115	8-719-110-53	DIODE RD20ESB2	
D116	8-719-920-67	DIODE ERC91-02	
D119	8-719-911-19	DIODE 1SS119-25	
D124	8-719-948-45	DIODE ERA22-08	
D126	8-719-110-88	DIODE RD39ESB2	
D127	8-719-110-41	DIODE RD15ESB2	
D128	8-719-110-41	DIODE RD15ESB2	
D129	8-719-110-41	DIODE RD15ESB2	
D130	8-719-110-41	DIODE RD15ESB2	
D133	8-719-911-19	DIODE 1SS119-25	
D134	8-719-300-80	DIODE RU-1C	
D135	8-719-300-80	DIODE RU-1C	
D136	8-719-300-80	DIODE RU-1C	
D137	8-719-300-80	DIODE RU-1C	
D138	8-719-911-19	DIODE 1SS119-25	
D144	8-719-901-19	DIODE V11N	
D145	8-719-911-19	DIODE 1SS119-25	
D146	8-719-948-45	DIODE ERA22-08	
D149	8-719-911-19	DIODE 1SS119-25	
D301	8-719-110-41	DIODE RD15ESB2	
D351	8-719-948-45	DIODE ERA22-08	
		< FERRITE BEAD >	
FB1	1-410-396-41	FERRITE BEAD INDUCTOR 0.45μH	
		< IC >	
IC1	8-759-145-58	IC μPC4558C	
IC2	8-759-145-58	IC μPC4558C	
IC3	8-759-145-58	IC μPC4558C	
IC107	8-759-433-43	IC MC1495BP	
IC108	8-759-442-21	IC MC1436CP1	
IC109	8-759-231-58	IC TA7812S	
IC110	8-759-929-65	IC LM7912CT	
IC112	8-759-145-58	IC μPC4558C	
IC115	8-759-145-58	IC μPC4558C	
		< COIL >	
L103	1-406-975-21	COIL, CHOKE 47μH	
L104	1-406-975-21	COIL, CHOKE 47μH	
L106	1-406-976-11	COIL, CHOKE 68μH	
L107	1-414-493-41	INDUCTOR 4.7mH	
L108	1-414-493-41	INDUCTOR 4.7mH	
L109	1-406-975-21	COIL, CHOKE 47μH	
L110	1-406-975-21	COIL, CHOKE 47μH	
L111	1-414-500-31	INDUCTOR 22mH	
L113	1-414-746-11	INDUCTOR 470μH	
L115	1-414-493-41	INDUCTOR 4.7mH	
L401	1-406-975-21	COIL, CHOKE 47μH	
		< VARIABLE COIL >	
LV1	1-460-019-21	COIL, HORIZONTAL ADJUSTMENT	
LV2	1-460-019-21	COIL, HORIZONTAL ADJUSTMENT	
LV3	1-460-019-21	COIL, HORIZONTAL ADJUSTMENT	
		< TRANSISTOR >	
Q1	8-729-142-69	TRANSISTOR 2SK817	
Q2	8-729-142-68	TRANSISTOR 2SJ143	
Q3	8-729-142-69	TRANSISTOR 2SK817	
Q4	8-729-142-68	TRANSISTOR 2SJ143	
Q5	8-729-142-69	TRANSISTOR 2SK817	
Q6	8-729-142-68	TRANSISTOR 2SJ143	
Q7	8-729-821-07	TRANSISTOR 2SC3997CA	
Q103	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q104	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q106	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q111	8-729-143-42	TRANSISTOR 2SK929	
Q112	8-729-142-68	TRANSISTOR 2SJ143	
Q113	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q115	8-729-030-03	TRANSISTOR DTC144ESA-TP	
Q116	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q117	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q118	8-729-105-74	TRANSISTOR 2SK523-M1	
Q130	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q131	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q137	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q138	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q139	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q140	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q141	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q143	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q144	8-729-905-86	TRANSISTOR 2SC4054N	
Q145	8-729-402-03	TRANSISTOR 2SK755	
Q146	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q147	8-729-905-86	TRANSISTOR 2SC4054N	
Q148	8-729-802-71	TRANSISTOR 2SA1407-D	
Q301	8-729-032-26	TRANSISTOR IRFI9620GS	
Q302	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q303	8-729-030-03	TRANSISTOR DTC144ESA-TP	

REF NO.	PART NO.	DESCRIPTION				REMARK
		< RESISTOR >				
R1	1-216-393-00	METAL OXIDE	2.2	5%	3W	F
R2	1-216-393-00	METAL OXIDE	2.2	5%	3W	F
R3	1-216-393-00	METAL OXIDE	2.2	5%	3W	F
R4	1-249-417-11	CARBON	1K	5%	1/4W	
R5	1-215-445-00	METAL	10K	1%	1/4W	
R7	1-215-445-00	METAL	10K	1%	1/4W	
R8	1-215-445-00	METAL	10K	1%	1/4W	
R9	1-215-445-00	METAL	10K	1%	1/4W	
R10	1-249-417-11	CARBON	1K	5%	1/4W	
R11	1-214-832-00	METAL	47	1%	1/2W	
R12	1-214-832-00	METAL	47	1%	1/2W	
R13	1-214-832-00	METAL	47	1%	1/2W	
R14	1-249-417-11	CARBON	1K	5%	1/4W	
R15	1-215-445-00	METAL	10K	1%	1/4W	
R17	1-215-445-00	METAL	10K	1%	1/4W	
R18	1-215-445-00	METAL	10K	1%	1/4W	
R19	1-215-445-00	METAL	10K	1%	1/4W	
R20	1-249-417-11	CARBON	1K	5%	1/4W	
R21	1-214-832-00	METAL	47	1%	1/2W	
R22	1-214-832-00	METAL	47	1%	1/2W	
R23	1-214-832-00	METAL	47	1%	1/2W	
R24	1-249-417-11	CARBON	1K	5%	1/4W	
R25	1-215-445-00	METAL	10K	1%	1/4W	
R27	1-215-445-00	METAL	10K	1%	1/4W	
R28	1-215-445-00	METAL	10K	1%	1/4W	
R29	1-215-445-00	METAL	10K	1%	1/4W	
R30	1-249-417-11	CARBON	1K	5%	1/4W	
R31	1-214-832-00	METAL	47	1%	1/2W	
R32	1-214-832-00	METAL	47	1%	1/2W	
R33	1-214-832-00	METAL	47	1%	1/2W	
R34	1-214-832-00	METAL	47	1%	1/2W	
R35	1-214-832-00	METAL	47	1%	1/2W	
R36	1-214-832-00	METAL	47	1%	1/2W	
R37	1-214-832-00	METAL	47	1%	1/2W	
R38	1-214-832-00	METAL	47	1%	1/2W	
R39	1-214-832-00	METAL	47	1%	1/2W	
R40	1-214-832-00	METAL	47	1%	1/2W	
R41	1-214-832-00	METAL	47	1%	1/2W	
R42	1-214-832-00	METAL	47	1%	1/2W	
R43	1-249-421-11	CARBON	2.2K	5%	1/4W	
R44	1-249-421-11	CARBON	2.2K	5%	1/4W	
R45	1-249-421-11	CARBON	2.2K	5%	1/4W	
R46	1-249-421-11	CARBON	2.2K	5%	1/4W	
R47	1-249-421-11	CARBON	2.2K	5%	1/4W	
R48	1-249-417-11	CARBON	1K	5%	1/4W	
R49	1-249-417-11	CARBON	1K	5%	1/4W	
R57	1-247-807-31	CARBON	100	5%	1/4W	
R58	1-247-807-31	CARBON	100	5%	1/4W	
R59	1-247-807-31	CARBON	100	5%	1/4W	
R60	1-247-807-31	CARBON	100	5%	1/4W	
R61	1-247-807-31	CARBON	100	5%	1/4W	
R62	1-247-807-31	CARBON	100	5%	1/4W	
R63	1-249-416-11	CARBON	820	5%	1/4W	F
R64	1-249-416-11	CARBON	820	5%	1/4W	F
R65	1-249-416-11	CARBON	820	5%	1/4W	F
R66	1-215-905-11	METAL OXIDE	10	5%	3W	F
R67	1-216-397-11	METAL OXIDE	4.7	5%	3W	F
R68	1-216-397-11	METAL OXIDE	4.7	5%	3W	F
R113	1-247-807-31	CARBON	100	5%	1/4W	
R114	1-249-417-11	CARBON	1K	5%	1/4W	
R134	1-215-453-00	METAL	22K	1%	1/4W	
R135	1-249-429-11	CARBON	10K	5%	1/4W	
R136	1-247-843-11	CARBON	3.3K	5%	1/4W	
R137	1-247-843-11	CARBON	3.3K	5%	1/4W	
R138	1-247-843-11	CARBON	3.3K	5%	1/4W	
R139	1-249-425-11	CARBON	4.7K	5%	1/4W	
R140	1-249-417-11	CARBON	1K	5%	1/4W	
R141	1-249-421-11	CARBON	2.2K	5%	1/4W	
R142	1-249-421-11	CARBON	2.2K	5%	1/4W	
R143	1-249-420-11	CARBON	1.8K	5%	1/4W	
R144	1-249-421-11	CARBON	2.2K	5%	1/4W	
R145	1-247-843-11	CARBON	3.3K	5%	1/4W	
R146	1-249-435-11	CARBON	33K	5%	1/4W	
R147	1-249-421-11	CARBON	2.2K	5%	1/4W	
R148	1-249-440-11	CARBON	82K	5%	1/4W	
R149	1-249-417-11	CARBON	1K	5%	1/4W	
R150	1-215-461-00	METAL	47K	1%	1/4W	
R160	1-249-417-11	CARBON	1K	5%	1/4W	
R161	1-215-467-00	METAL	82K	1%	1/4W	
R167	1-249-437-11	CARBON	47K	5%	1/4W	
R169	1-249-429-11	CARBON	10K	5%	1/4W	F
R170	1-249-425-11	CARBON	4.7K	5%	1/4W	
R171	1-249-417-11	CARBON	1K	5%	1/4W	
R172	1-249-417-11	CARBON	1K	5%	1/4W	
R173	1-216-389-11	METAL OXIDE	1	5%	3W	F
R174	1-216-388-11	METAL OXIDE	0.82	5%	3W	F
R176	1-249-417-11	CARBON	1K	5%	1/4W	F
R182	1-249-421-11	CARBON	2.2K	5%	1/4W	
R183	1-247-807-31	CARBON	100	5%	1/4W	
R201	1-216-483-11	METAL OXIDE	2.7K	5%	3W	F
R202	1-216-483-11	METAL OXIDE	2.7K	5%	3W	F
R204	1-247-807-31	CARBON	100	5%	1/4W	
R223	1-249-429-11	CARBON	10K	5%	1/4W	
R224	1-249-429-11	CARBON	10K	5%	1/4W	
R227	1-249-429-11	CARBON	10K	5%	1/4W	
R228	1-249-429-11	CARBON	10K	5%	1/4W	
R229	1-249-429-11	CARBON	10K	5%	1/4W	
R230	1-249-377-11	CARBON	0.47	5%	1/4W	F
R231	1-249-377-11	CARBON	0.47	5%	1/4W	F
R232	1-249-437-11	CARBON	47K	5%	1/4W	
R233	1-249-417-11	CARBON	1K	5%	1/4W	
R245	1-215-455-00	METAL	27K	1%	1/4W	
R246	1-215-435-00	METAL	3.9K	1%	1/4W	
R247	1-249-421-11	CARBON	2.2K	5%	1/4W	
R248	1-249-425-11	CARBON	4.7K	5%	1/4W	
R249	1-215-421-00	METAL	1K	1%	1/4W	
R250	1-215-445-00	METAL	10K	1%	1/4W	
R251	1-247-887-00	CARBON	220K	5%	1/4W	
R252	1-249-429-11	CARBON	10K	5%	1/4W	
R254	1-247-807-31	CARBON	100	5%	1/4W	
R255	1-249-417-11	CARBON	1K	5%	1/4W	
R256	1-249-441-11	CARBON	100K	5%	1/4W	
R257	1-249-437-11	CARBON	47K	5%	1/4W	
R258	1-215-435-00	METAL	3.9K	1%	1/4W	
R259	1-215-439-00	METAL	5.6K	1%	1/4W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R260	1-215-445-00	METAL	10K	1%	1/4W	
R263	1-215-878-00	METAL OXIDE	33K	5%	1W	F
R264	1-249-429-11	CARBON	10K	5%	1/4W	
R265	1-247-807-31	CARBON	100	5%	1/4W	
R266	1-249-441-11	CARBON	100K	5%	1/4W	
R267	1-215-379-00	METAL	18	1%	1/4W	
R268	1-215-379-00	METAL	18	1%	1/4W	
R269	1-215-421-00	METAL	1K	1%	1/4W	
R270	1-215-421-00	METAL	1K	1%	1/4W	
R271	1-215-924-00	METAL OXIDE	15K	5%	3W	F
R272	1-249-387-11	CARBON	3.3	5%	1/4W	F
R273	1-249-429-11	CARBON	10K	5%	1/4W	
R274	1-249-429-11	CARBON	10K	5%	1/4W	
R275	1-249-429-11	CARBON	10K	5%	1/4W	
R276	1-249-429-11	CARBON	10K	5%	1/4W	
R281	1-249-385-11	CARBON	2.2	5%	1/4W	F
R282	1-249-385-11	CARBON	2.2	5%	1/4W	F
R284	1-215-467-00	METAL	82K	1%	1/4W	
R285	1-215-445-00	METAL	10K	1%	1/4W	
R286	1-215-911-11	METAL OXIDE	100	5%	3W	F
R287	1-202-727-00	SOLID	4.7M	20%	1/2W	
R288	1-202-727-00	SOLID	4.7M	20%	1/2W	
R289	1-202-727-00	SOLID	4.7M	20%	1/2W	
R290	1-202-727-00	SOLID	4.7M	20%	1/2W	
R296	1-249-429-11	CARBON	10K	5%	1/4W	
R301	1-217-210-11	WIREWOUND	6.8	10%	2W	F
R302	1-207-688-00	WIREWOUND	220	10%	5W	F
R303	1-249-440-11	CARBON	82K	5%	1/4W	
R304	1-249-429-11	CARBON	10K	5%	1/4W	
R305	1-249-417-11	CARBON	1K	5%	1/4W	
R306	1-249-425-11	CARBON	4.7K	5%	1/4W	
R307	1-260-304-51	CARBON	10	5%	1/2W	
R351	1-249-417-11	CARBON	1K	5%	1/4W	

< VARIABLE RESISTOR >

RV101	1-238-805-11	RES, ADJ, CERMET 100K
RV102	1-238-805-11	RES, ADJ, CERMET 100K

< TRANSFORMER >

T102	1-439-480-11	TRANSFORMER, HORIZONTAL OUTPUT
T103	1-431-072-11	TRANSFORMER, FERRITE (HDT)

< TEST PIN >

TP1	1-537-864-11	PIN, POST
TP2	1-537-864-11	PIN, POST
TP3	1-537-864-11	PIN, POST

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* A-1346-525-A EA COMPLETE PC BOARD

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* 7-322-065-72 RUBBER, RTV (SE-9168) (130G)

< CAPACITOR >

C1	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C2	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C3	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C4	1-126-964-11	ELECT	10MF	20%	50V
C5	1-163-251-11	CERAMIC CHIP	100PF	5%	50V

REF NO.	PART NO.	DESCRIPTION				REMARK
C6	1-109-889-11	ELECT	1MF	20%	50V	
C7	1-136-153-00	FILM	0.01MF	5%	50V	
C8	1-109-889-11	ELECT	1MF	20%	50V	
C9	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C10	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C11	1-163-243-11	CERAMIC CHIP	47PF	5%	50V	
C12	1-163-243-11	CERAMIC CHIP	47PF	5%	50V	
C13	1-109-889-11	ELECT	1MF	20%	50V	
C14	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C15	1-126-964-11	ELECT	10MF	20%	50V	
C16	1-109-889-11	ELECT	1MF	20%	50V	
C17	1-136-153-00	FILM	0.01MF	5%	50V	
C18	1-126-967-11	ELECT	47MF	20%	16V	
C19	1-126-961-11	ELECT	2.2MF	20%	50V	
C20	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C21	1-109-889-11	ELECT	1MF	20%	50V	
C22	1-136-153-00	FILM	0.01MF	5%	50V	
C23	1-109-889-11	ELECT	1MF	20%	50V	
C24	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C25	1-126-964-11	ELECT	10MF	20%	50V	
C26	1-109-889-11	ELECT	1MF	20%	50V	
C27	1-136-153-00	FILM	0.01MF	5%	50V	
C28	1-126-964-11	ELECT	10MF	20%	50V	
C29	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C30	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C31	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C32	1-109-889-11	ELECT	1MF	20%	50V	
C33	1-109-889-11	ELECT	1MF	20%	50V	
C34	1-109-889-11	ELECT	1MF	20%	50V	
C35	1-126-964-11	ELECT	10MF	20%	50V	
C36	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C37	1-136-153-00	FILM	0.01MF	5%	50V	
C38	1-136-165-00	FILM	0.1MF	5%	50V	
C39	1-126-963-11	ELECT	4.7MF	20%	50V	
C40	1-126-968-11	ELECT	100MF	20%	50V	
C41	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C42	1-126-967-11	ELECT	47MF	20%	16V	
C43	1-126-968-11	ELECT	100MF	20%	50V	
C44	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C45	1-126-967-11	ELECT	47MF	20%	16V	
C46	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C47	1-126-963-11	ELECT	4.7MF	20%	50V	
C48	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C49	1-137-366-11	FILM	0.0022MF	5%	50V	
C50	1-136-159-00	FILM	0.033MF	5%	50V	
C51	1-126-961-11	ELECT	2.2MF	20%	50V	
C52	1-126-961-11	ELECT	2.2MF	20%	50V	
C53	1-109-889-11	ELECT	1MF	20%	50V	
C57	1-136-165-00	FILM	0.1MF	5%	50V	
C58	1-137-364-11	FILM	0.001MF	5%	50V	
C59	1-136-157-00	FILM	0.022MF	5%	50V	
C60	1-126-934-11	ELECT	220MF	20%	16V	
C61	1-109-889-11	ELECT	1MF	20%	50V	
C62	1-126-967-11	ELECT	47MF	20%	16V	
C63	1-136-165-00	FILM	0.1MF	5%	50V	
C64	1-126-964-11	ELECT	10MF	20%	50V	
C65	1-137-368-11	FILM	0.0047MF	5%	50V	
C66	1-126-963-11	ELECT	4.7MF	20%	50V	
C67	1-137-366-11	FILM	0.0022MF	5%	50V	

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REF NO.	PART NO.	DESCRIPTION				REMARK
C68	1-107-487-11	FILM	0.001MF	5%	50V	
C69	1-107-487-11	FILM	0.001MF	5%	50V	
C70	1-126-965-11	ELECT	22MF	20%	50V	
C71	1-126-961-11	ELECT	2.2MF	20%	50V	
C72	1-126-935-11	ELECT	470MF	20%	16V	
C73	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C74	1-126-964-11	ELECT	10MF	20%	50V	
C75	1-163-253-11	CERAMIC CHIP	120PF	5%	50V	
C76	1-126-959-11	ELECT	0.47MF	20%	50V	
C77	1-126-963-11	ELECT	4.7MF	20%	50V	
C78	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C79	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C80	1-126-933-11	ELECT	100MF	20%	16V	
C81	1-109-889-11	ELECT	1MF	20%	50V	
C82	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C83	1-109-889-11	ELECT	1MF	20%	50V	
C84	1-126-967-11	ELECT	47MF	20%	16V	
C85	1-126-967-11	ELECT	47MF	20%	16V	
C86	1-124-768-11	ELECT	4.7MF	20%	50V	
C87	1-126-960-11	ELECT	1MF	20%	50V	
C88	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
C89	1-136-159-00	FILM	0.033MF	5%	50V	
C90	1-126-964-11	ELECT	10MF	20%	50V	
C91	1-126-964-11	ELECT	10MF	20%	50V	
C92	1-136-165-00	FILM	0.1MF	5%	50V	
C93	1-136-165-00	FILM	0.1MF	5%	50V	
C94	1-126-964-11	ELECT	10MF	20%	50V	
C95	1-136-153-00	FILM	0.01MF	5%	50V	
C96	1-126-967-11	ELECT	47MF	20%	16V	
C97	1-137-364-11	FILM	0.001MF	5%	50V	
C98	1-126-933-11	ELECT	100MF	20%	16V	
C99	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C201	1-126-968-11	ELECT	100MF	20%	50V	
C202	1-126-968-11	ELECT	100MF	20%	50V	
C203	1-126-933-11	ELECT	100MF	20%	16V	
C204	1-126-933-11	ELECT	100MF	20%	16V	
C251	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C252	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C253	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C254	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C301	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C302	1-163-031-11	CERAMIC CHIP	0.01MF		50V	
C303	1-126-963-11	ELECT	4.7MF	20%	50V	
C304	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C305	1-126-964-11	ELECT	10MF	20%	50V	
C306	1-126-960-11	ELECT	1MF	20%	50V	
C361	1-126-933-11	ELECT	100MF	20%	16V	
		< CONNECTOR>				
CN521	* 1-770-734-11	CONNECTOR, BOARD TO BOARD 20P				
CN522	* 1-770-734-11	CONNECTOR, BOARD TO BOARD 20P				
		< DIODE >				
D1	8-719-801-78	DIODE 1SS184				
D2	8-719-106-71	DIODE RD12M-B2				
D3	8-719-801-78	DIODE 1SS184				
D4	8-719-801-78	DIODE 1SS184				

REF NO.	PART NO.	DESCRIPTION		REMARK
D5	8-719-900-95	DIODE V09G		
D6	8-719-900-95	DIODE V09G		
D7	8-719-801-78	DIODE 1SS184		
D8	8-719-801-78	DIODE 1SS184		
D9	8-719-948-45	DIODE ERA22-08		
D10	8-719-801-78	DIODE 1SS184		
D11	8-719-801-78	DIODE 1SS184		
D12	8-719-800-76	DIODE 1SS226		
D13	8-719-800-76	DIODE 1SS226		
D14	8-719-801-78	DIODE 1SS184		
D15	8-719-801-78	DIODE 1SS184		
D16	8-719-801-78	DIODE 1SS184		
D17	8-719-800-76	DIODE 1SS226		
D301	8-719-801-78	DIODE 1SS184		
D302	8-719-801-78	DIODE 1SS184		
D303	8-719-105-73	DIODE RD4.7M-B2		
		< IC >		
IC1	8-759-300-78	IC HD14538BFP		
IC2	8-759-381-53	IC μPC814G2-E2		
IC3	8-759-300-78	IC HD14538BFP		
IC4	8-759-381-53	IC μPC814G2-E2		
IC5	8-752-033-65	IC CXA1158P		
IC6	8-759-144-82	IC μPC2405HF		
IC7	8-759-247-67	IC LM2990T-5.0		
IC8	8-759-443-72	IC RH5VL43AA-T1		
IC9	8-759-908-15	IC TL431CLP		
IC10	8-759-326-65	IC MP7670AS-TE2		
IC11	8-759-326-65	IC MP7670AS-TE2		
IC12	8-759-300-78	IC HD14538BFP		
IC13	8-759-100-96	IC μPC4558G2		
IC14	8-759-100-93	IC μPC393G2		
IC15	8-749-010-15	IC MC-8639A		
IC16	8-759-100-60	IC μPC1377C		
IC17	8-759-300-78	IC HD14538BFP		
IC18	8-759-381-53	IC μPC814G2-E2		
IC19	8-759-100-96	IC μPC4558G2		
IC20	8-759-100-96	IC μPC4558G2		
IC21	8-759-300-78	IC HD14538BFP		
IC22	8-759-381-53	IC μPC814G2-E2		
IC23	8-759-381-53	IC μPC814G2-E2		
IC24	8-759-100-93	IC μPC393G2		
IC31	8-759-381-53	IC μPC814G2-E2		
IC251	8-759-381-53	IC μPC814G2-E2		
IC301	8-759-100-96	IC μPC4558G2		
		< COIL >		
L201	1-412-533-21	INDUCTOR	47μH	
L202	1-412-533-21	INDUCTOR	47μH	
L203	1-412-533-21	INDUCTOR	47μH	
L204	1-412-533-21	INDUCTOR	47μH	
		< TRANSISTOR >		
Q1	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q2	8-729-216-22	TRANSISTOR 2SA1162-G		
Q3	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q4	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q5	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		

EA

REF NO.	PART NO.	DESCRIPTION				REMARK
Q6	8-729-216-22	TRANSISTOR	2SA1162-G			
Q7	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q8	8-729-216-22	TRANSISTOR	2SA1162-G			
Q9	8-729-904-04	TRANSISTOR	FMS2			
Q10	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q11	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q12	8-729-216-22	TRANSISTOR	2SA1162-G			
Q13	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q14	8-729-105-74	TRANSISTOR	2SK523-M1			
Q15	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q16	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q17	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q18	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q19	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q20	8-729-230-49	TRANSISTOR	2SC2712-YG-TE85L			
Q21	8-729-216-22	TRANSISTOR	2SA1162-G			
Q22	8-729-027-59	TRANSISTOR	DTC144EKA-T146			
Q23	8-729-027-59	TRANSISTOR	DTC144EKA-T146			
Q24	8-729-904-04	TRANSISTOR	FMS2			
Q25	8-729-926-23	TRANSISTOR	FMW5			
Q26	8-729-216-22	TRANSISTOR	2SA1162-G			
Q27	8-729-027-59	TRANSISTOR	DTC144EKA-T146			
Q28	8-729-027-59	TRANSISTOR	DTC144EKA-T146			
Q29	8-729-105-74	TRANSISTOR	2SK523-M1			
		<RESISTOR>				
R1	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R2	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R3	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R4	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R5	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R6	1-218-754-11	METAL CHIP	120K	0.50%	1/10W	
R7	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R8	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R9	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R10	1-216-697-91	METAL CHIP	82K	0.50%	1/10W	
R11	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R12	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R13	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R14	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R15	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R16	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R17	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R18	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R19	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R20	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R21	1-216-103-00	METAL GLAZE	180K	5%	1/10W	
R22	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R23	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R24	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R25	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R26	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R27	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R28	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R29	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R30	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R31	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R32	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R33	1-216-049-91	METAL GLAZE	1K	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R34	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R35	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R36	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R37	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R38	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R39	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R40	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R41	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R42	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R43	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R44	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R45	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R46	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R47	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R48	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R49	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R50	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R51	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R52	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R53	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R54	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R55	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R56	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R57	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R58	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R59	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R60	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R61	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R62	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R63	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R64	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R65	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R66	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R67	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R68	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R69	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R70	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R71	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R72	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R73	1-216-611-11	METAL CHIP	22	0.50%	1/10W	
R74	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R75	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R76	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R77	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R78	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R79	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R80	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R81	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R82	1-216-627-11	METAL CHIP	100	0.50%	1/10W	
R83	1-216-611-11	METAL CHIP	22	0.50%	1/10W	
R84	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R85	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R86	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R87	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R88	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R89	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R90	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R92	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R93	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R96	1-216-697-91	METAL CHIP	82K	0.50%	1/10W	
R97	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R98	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R99	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R100	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R101	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R102	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R103	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R104	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R105	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R106	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R107	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R108	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R109	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R112	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R113	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R114	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W	
R115	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R116	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R117	1-216-043-91	METAL GLAZE	560	5%	1/10W	
R118	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R119	1-216-043-91	METAL GLAZE	560	5%	1/10W	
R120	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R121	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R122	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R123	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R124	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R125	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R126	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R127	1-216-697-91	METAL CHIP	82K	0.50%	1/10W	
R128	1-216-697-91	METAL CHIP	82K	0.50%	1/10W	
R129	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R130	1-216-697-91	METAL CHIP	82K	0.50%	1/10W	
R131	1-216-697-91	METAL CHIP	82K	0.50%	1/10W	
R132	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W	
R133	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R134	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R135	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R136	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R137	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R138	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R139	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R140	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R141	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R142	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R143	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R144	1-218-764-11	METAL CHIP	330K	0.50%	1/10W	
R145	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R146	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R147	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R148	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R149	1-216-681-11	METAL CHIP	18K	0.50%	1/10W	
R150	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R151	1-218-760-11	METAL CHIP	220K	0.50%	1/10W	
R152	1-216-619-11	METAL CHIP	47	0.50%	1/10W	
R153	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R154	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R155	1-216-091-00	METAL GLAZE	56K	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R156	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R157	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R158	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R159	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R160	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R161	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R162	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	
R163	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R164	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R165	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R166	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R167	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R168	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R169	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R170	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R171	1-216-121-91	METAL GLAZE	1M	5%	1/10W	
R172	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R173	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R174	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R175	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R176	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R177	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R178	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R179	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R180	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R181	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R182	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R183	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R184	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R185	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R186	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R187	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R188	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R189	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R190	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R191	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R192	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R193	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R194	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R195	1-216-681-11	METAL CHIP	18K	0.50%	1/10W	
R196	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R197	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R198	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R199	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R200	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R201	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R202	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R203	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R204	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R206	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R207	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R208	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R209	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R251	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R252	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R253	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	
R254	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R255	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R256	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	

EA **EB** **G**

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

REF NO.	PART NO.	DESCRIPTION				REMARK
R257	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R258	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R259	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R301	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R302	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R303	1-218-764-11	METAL CHIP	330K	0.50%	1/10W	
R304	1-216-697-91	METAL CHIP	82K	0.50%	1/10W	
R305	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R306	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R307	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R308	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R309	1-218-758-11	METAL CHIP	180K	0.50%	1/10W	
R310	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R311	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R1001	1-249-417-11	CARBON	1K	5%	1/4W	
		< VARIABLE RESISTOR >				
RV1	1-238-789-11	RES, ADJ, CERMET 50K				
RV2	1-238-787-11	RES, ADJ, CERMET 10K				
RV3	1-238-787-11	RES, ADJ, CERMET 10K				
RV4	1-238-785-21	RES, ADJ, CERMET 2K				
RV5	1-238-789-11	RES, ADJ, CERMET 50K				
		< SWITCH >				
S1	1-570-865-11	SWITCH, SLIDE				
S2	1-570-865-11	SWITCH, SLIDE				
S3	1-570-865-11	SWITCH, SLIDE				
		< TEST PIN >				
TP1	* 1-535-877-22	CHIP, CHECKER				
TP2	* 1-535-877-22	CHIP, CHECKER				
TP3	* 1-535-877-22	CHIP, CHECKER				
TP4	* 1-535-877-22	CHIP, CHECKER				
TP5	* 1-535-877-22	CHIP, CHECKER				
TP6	* 1-535-877-22	CHIP, CHECKER				
TP7	* 1-535-877-22	CHIP, CHECKER				
TP8	* 1-535-877-22	CHIP, CHECKER				
TP9	* 1-535-877-22	CHIP, CHECKER				
TP10	* 1-535-877-22	CHIP, CHECKER				
TP11	* 1-535-877-22	CHIP, CHECKER				
TP12	* 1-535-877-22	CHIP, CHECKER				
TP13	* 1-535-877-22	CHIP, CHECKER				
TP14	* 1-535-877-22	CHIP, CHECKER				
TP15	* 1-535-877-22	CHIP, CHECKER				
TP16	* 1-535-877-22	CHIP, CHECKER				
TP17	* 1-535-877-22	CHIP, CHECKER				
TP18	* 1-535-877-22	CHIP, CHECKER				
TP19	* 1-535-877-22	CHIP, CHECKER				

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* A-1343-173-A EB MOUNTED PC BOARD
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REF NO.	PART NO.	DESCRIPTION				REMARK
		< CONNECTOR>				
CN531	* 1-750-916-11	PIN, CONNECTOR(DY)(PC BOARD)8P				
CN532	* 1-750-916-11	PIN, CONNECTOR(DY)(PC BOARD)8P				
CN533	* 1-750-916-11	PIN, CONNECTOR(DY)(PC BOARD)8P				
CN534	* 1-750-916-11	PIN, CONNECTOR(DY)(PC BOARD)8P				
CN535	* 1-750-916-11	PIN, CONNECTOR(DY)(PC BOARD)8P				
CN536	* 1-750-916-11	PIN, CONNECTOR(DY)(PC BOARD)8P				
CN537	* 1-564-507-11	PLUG, CONNECTOR 4P				
		< RESISTOR >				
R501	1-247-807-31	CARBON	100	5%	1/4W	
R502	1-247-807-31	CARBON	100	5%	1/4W	
		< SWITCH >				
SW1	1-571-729-11	SWITCH, SLIDE				
SW2	1-570-245-11	SWITCH, MICRO				

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* A-1316-281-A G COMPLETE PC BOARD
(Include GB, GC MOUNTEC PC BOARD)
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REF NO.	PART NO.	DESCRIPTION				REMARK
	* 2-434-297-01	BRACKET (DP-UR17)				
	3-899-248-11	SCREW (M3X8)				
	4-057-444-01	SHEET (G), INSULATOR				
	* 4-374-846-01	COVER, CAPACITOR, CAP TYPE				
	4-391-741-61	HEAT SINK, V.OUT				
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)				
		< CAPACITOR >				
C100	1-104-665-11	ELECT	100MF	20%	25V	
C151 ⚠	1-113-511-11	FILM	0.47MF	20%	275V	
C152 ⚠	1-113-920-91	CERAMIC	0.0022MF	20%	250V	
C153 ⚠	1-113-920-91	CERAMIC	0.0022MF	20%	250V	
C155 ⚠	1-113-511-11	FILM	0.47MF	20%	275V	
C156 ⚠	1-113-920-91	CERAMIC	0.0022MF	20%	250V	
C157 ⚠	1-113-920-91	CERAMIC	0.0022MF	20%	250V	
C159 ⚠	1-113-511-11	FILM	0.47MF	20%	275V	
C160 ⚠	1-117-228-11	FILM	2.2MF	10%	450V	
C161	1-117-228-11	FILM	2.2MF	10%	450V	
C162	1-125-601-11	ELECT	470MF	20%	450V	
C163	1-125-601-11	ELECT	470MF	20%	450V	
C165	1-113-912-11	CERAMIC	0.0047MF	20%	250V	
C170	1-115-832-91	ELECT	100MF	20%	50V	
C171	1-115-832-91	ELECT	100MF	20%	50V	
C179 ⚠	1-113-920-91	CERAMIC	0.0022MF	20%	250V	
C180 ⚠	1-113-920-91	CERAMIC	0.0022MF	20%	250V	
C300	1-164-644-11	CERAMIC	330PF	10%	500V	
C301	1-164-644-11	CERAMIC	330PF	10%	500V	
C303	1-126-969-11	ELECT	220MF	20%	50V	
C304	1-136-167-00	FILM	0.15MF	5%	50V	
C305	1-136-167-00	FILM	0.15MF	5%	50V	
C306	1-136-162-00	FILM	0.056MF	5%	50V	
C308	1-136-162-00	FILM	0.056MF	5%	50V	
C309	1-136-066-00	FILM	0.003MF	3%	2KV	
C310	1-126-960-11	ELECT	1MF	20%	50V	
C311	1-136-171-00	FILM	0.33MF	5%	50V	
C312	1-126-963-11	ELECT	4.7MF	20%	50V	
C313	1-115-743-11	ELECT	0.0033F	20%	10V	
C314	1-136-165-00	FILM	0.1MF	5%	50V	
C315	1-126-963-11	ELECT	4.7MF	20%	50V	
C316	1-115-729-11	ELECT	100MF	20%	10V	
C320	1-136-209-11	FILM	0.1MF	10%	630V	
C405	1-107-792-11	CERAMIC	100PF	5%	1KV	
C408	1-137-347-11	FILM	0.022MF	5%	0	

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REF NO.		PART NO.	DESCRIPTION			REMARK
C413		1-164-644-11	CERAMIC	330PF	10%	500V
C414		1-126-964-11	ELECT	10MF	20%	50V
C415		1-115-811-51	ELECT	560MF	20%	35V
C416		1-115-811-51	ELECT	560MF	20%	35V
C417		1-115-792-11	ELECT	0.0022F	20%	25V
C418		1-115-792-11	ELECT	0.0022F	20%	25V
C419		1-123-024-21	ELECT	33MF		160V
C421		1-107-792-11	CERAMIC	100PF	5%	1KV
C424		1-117-227-11	FILM	1MF	10%	450V
C505		1-117-227-11	FILM	1MF	10%	450V
C508		1-137-347-11	FILM	0.022MF	5%	0
C514		1-107-675-11	ELECT	1MF	20%	160V
C515		1-107-655-11	ELECT	47MF	20%	250V
C516		1-115-743-11	ELECT	0.0033F	20%	10V
C517		1-115-737-11	ELECT	0.001F	20%	10V
C518		1-126-600-11	ELECT	100MF	20%	160V
C520		1-107-792-11	CERAMIC	100PF	5%	1KV
C521		1-107-792-11	CERAMIC	100PF	5%	1KV
C601		1-126-960-11	ELECT	1MF	20%	50V
C602		1-126-964-11	ELECT	10MF	20%	50V
C603		1-126-964-11	ELECT	10MF	20%	50V
C604		1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
			< CONNECTOR>			
CN851		* 1-580-843-11	PIN, CONNECTOR (POWER)			
CN852		* 1-564-506-11	PLUG, CONNECTOR 3P			
CN853		1-564-505-11	PLUG, CONNECTOR 2P			
CN860		* 1-573-896-11	SOCKET, CONNECTOR 12P			
CN861		* 1-569-967-11	SOCKET, CONNECTOR 11P			
CN862		* 1-569-967-11	SOCKET, CONNECTOR 11P			
CN863		* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P			
CN864		* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P			
			< DIODE >			
D100		8-719-404-49	DIODE MA111			
D101		8-719-404-49	DIODE MA111			
D102		8-719-105-82	DIODE RD5.1M-B2			
D103		8-719-105-82	DIODE RD5.1M-B2			
D151	⚠	8-719-033-58	DIODE RBV-1506			
D152		8-719-911-19	DIODE 1SS119-25			
D154		8-719-044-70	DIODE S16L60			
D156		8-719-510-02	DIODE D1NS4			
D158		8-719-510-02	DIODE D1NS4			
D160		8-719-510-02	DIODE D1NS4			
D306		8-719-048-60	DIODE F10P03QL			
D307		8-719-801-78	DIODE 1SS184			
D308		8-719-404-49	DIODE MA111			
D309		8-719-510-37	DIODE D5LC20U			
D406		8-719-510-39	DIODE D10LC20U			
D409		8-719-057-51	DIODE D10LC20UR			
D410		8-719-106-53	DIODE RD10M-B2			
D411		8-719-510-09	DIODE D10SC6M			
D412		8-719-988-31	DIODE D10SC6MR			
D413		8-719-057-83	DIODE D10LC20U-F			
D414		8-719-057-51	DIODE D10LC20UR			
D506		8-719-052-31	DIODE D1NL40-TR2			
D507		8-719-052-31	DIODE D1NL40-TR2			
D508		8-719-510-13	DIODE D10SC4MR			
D510		8-719-052-31	DIODE D1NL40-TR2			

REF NO.		PART NO.	DESCRIPTION		REMARK
D511		8-719-052-31	DIODE D1NL40-TR2		
D512		8-719-106-53	DIODE RD10M-B2		
D513		8-719-988-30	DIODE D30SC4M		
D515		8-719-057-83	DIODE D10LC20U-F		
D516		8-719-057-51	DIODE D10LC20UR		
D601		8-719-801-78	DIODE 1SS184		
			< IC >		
IC300		8-759-140-85	IC μPC1093J		
IC302		8-719-041-18	DIODE 015Z11-XY-TPH3		
IC405		8-749-921-89	IC SE115N		
IC505		8-749-921-89	IC SE115N		
IC600		8-759-103-93	IC μPC393C		
			< COIL >		
L151	⚠	1-431-160-11	TRANSFORMER, LINE FILTER		
L152	⚠	1-431-161-11	TRANSFORMER, LINE FILTER		
L153	⚠	1-403-675-11	COIL, CHOKE 34.0μH		
L154	⚠	1-403-675-11	COIL, CHOKE 34.0μH		
L155		1-403-673-11	COIL, CHOKE 480μH		
L300		1-412-525-31	INDUCTOR	10μH	
L310		1-412-537-31	INDUCTOR	100μH	
L400		1-412-519-11	INDUCTOR	3.3μH	
L401		1-412-519-11	INDUCTOR	3.3μH	
L402		1-414-158-11	INDUCTOR	2.2μH	
L403		1-412-519-11	INDUCTOR	3.3μH	
L404		1-412-525-31	INDUCTOR	10μH	
L410		1-406-667-11	COIL, CHOKE	220μH	
L500		1-412-525-31	INDUCTOR	10μH	
L501		1-414-158-11	INDUCTOR	2.2μH	
L502		1-412-525-31	INDUCTOR	10μH	
L503		1-412-525-31	INDUCTOR	10μH	
L510		1-406-667-11	COIL, CHOKE	220μH	
			< PHOTO COUPLER >		
PH300		8-749-010-64	PHOTO COUPLER PC123F2		
PH400		8-749-010-64	PHOTO COUPLER PC123F2		
PH500		8-749-010-64	PHOTO COUPLER PC123F2		
			< TRANSISTOR >		
Q100		8-729-216-22	TRANSISTOR 2SA1162-G		
Q101		8-729-216-22	TRANSISTOR 2SA1162-G		
Q151		8-729-041-01	TRANSISTOR 2SK2198		
Q152		8-729-041-01	TRANSISTOR 2SK2198		
Q153		8-729-188-23	TRANSISTOR 2SD882-P		
Q154		8-729-177-22	TRANSISTOR 2SB772-Q		
Q158		8-729-188-23	TRANSISTOR 2SD882-P		
Q159		8-729-216-22	TRANSISTOR 2SA1162-G		
Q160		8-729-216-22	TRANSISTOR 2SA1162-G		
Q161		8-729-177-22	TRANSISTOR 2SB772-Q		
Q302		8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q303		8-729-216-22	TRANSISTOR 2SA1162-G		
Q304		8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		
Q305		8-729-216-22	TRANSISTOR 2SA1162-G		
Q400		8-729-023-20	TRANSISTOR 2SK1567		
Q401		8-729-023-20	TRANSISTOR 2SK1567		
Q500		8-729-023-20	TRANSISTOR 2SK1567		
Q501		8-729-023-20	TRANSISTOR 2SK1567		
Q601		8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L		

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REF NO.	PART NO.	DESCRIPTION				REMARK
Q602	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q603	8-729-027-59	TRANSISTOR DTC144EKA-T146				
		< RESISTOR >				
R100	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R101	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R102	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R103	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R104	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R105	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R150 ⚠	1-205-997-11	WIREWOUND	2.2	5%	10W	
R151	1-215-389-00	METAL	47	1%	1/4W	
R152 ⚠	1-205-997-11	WIREWOUND	2.2	5%	10W	
R154	1-216-381-11	METAL OXIDE	0.22	5%	3W	F
R155	1-216-381-11	METAL OXIDE	0.22	5%	3W	F
R156	1-216-381-11	METAL OXIDE	0.22	5%	3W	F
R159	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R160	1-249-401-11	CARBON	47	5%	1/4W	
R161	1-249-385-11	CARBON	2.2	5%	1/4W	
R162	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R163	1-249-401-11	CARBON	47	5%	1/4W	
R164	1-249-385-11	CARBON	2.2	5%	1/4W	
R171	1-215-389-00	METAL	47	1%	1/4W	
R182	1-215-860-11	METAL OXIDE	33	5%	1W	F
R184	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R186	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R187	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R188	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R191	1-216-381-11	METAL OXIDE	0.22	5%	3W	F
R194 ⚠	1-202-882-91	SOLID	560K	20%	1/2W	
R198	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R199	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R300	1-260-288-11	CARBON	0.47	5%	1/2W	
R301	1-260-288-11	CARBON	0.47	5%	1/2W	
R302	1-247-887-00	CARBON	220K	5%	1/4W	
R303	1-247-887-00	CARBON	220K	5%	1/4W	
R304	1-247-887-00	CARBON	220K	5%	1/4W	
R305	1-247-887-00	CARBON	220K	5%	1/4W	
R306	1-217-671-11	METAL GLAZE	1	5%	1/10W	
R307	1-217-671-11	METAL GLAZE	1	5%	1/10W	
R309	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R310	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R311	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	
R312	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R313	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R314	1-216-658-11	METAL CHIP	2K	0.50%	1/10W	
R315	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R316	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R317	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R318	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R403	1-202-933-61	FUSIBLE	0.1	10%	1/2W	F
R404	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R405	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R408	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R409	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R421	1-215-868-00	METAL OXIDE	680	5%	1W	F
R423	1-249-393-11	CARBON	10	5%	1/4W	
R424	1-249-405-11	CARBON	100	5%	1/4W	F
R425	1-215-473-00	METAL	150K	1%	1/4W	
R426	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R427	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R431	1-260-304-51	CARBON	10	5%	1/2W	
R450	1-249-385-11	CARBON	2.2	5%	1/4W	
R503	1-202-933-61	FUSIBLE	0.1	10%	1/2W	F
R504	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R505	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R508	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R509	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R521	1-215-875-11	METAL OXIDE	10K	5%	1W	F
R522	1-247-863-91	CARBON	22K	5%	1/4W	
R523	1-247-807-31	CARBON	100	5%	1/4W	
R524	1-249-405-11	CARBON	100	5%	1/4W	F
R525	1-215-473-00	METAL	150K	1%	1/4W	
R526	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R527	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R529	1-215-927-00	METAL OXIDE	47K	5%	3W	F
R530	1-215-900-11	METAL OXIDE	22K	5%	2W	F
R531	1-260-304-51	CARBON	10	5%	1/2W	
R550	1-249-385-11	CARBON	2.2	5%	1/4W	
R601	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R602	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R603	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R604	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R605	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R630	1-216-449-11	METAL OXIDE	56	5%	2W	F
R631	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R632	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R633	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R634	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R635	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R636	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R637	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R638	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R639	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
		< RELAY >				
RY151 ⚠	1-515-450-21	RELAY, POWER				
		< SWITCH >				
S1	1-692-845-11	SWITCH, THERMAL GUARD				
		< TRANSFORMER >				
T300	1-429-987-11	TRANSFORMER, CONVERTER (PIT)				
T301	1-429-992-11	TRANSFORMER, CONVERTER (PRT)				
T401	1-429-879-11	TRANSFORMER, CONVERTER				
T501	1-429-880-11	TRANSFORMER, CONVERTER				
		< VARISTOR >				
VDR400	1-809-267-11	VARISTOR ERZV10D471				
VDR500	1-809-267-11	VARISTOR ERZV10D471				
VZ151 ⚠	1-809-581-11	VARISTOR				

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	* A-1311-509-A	GA MOUNTED PC BOARD *****************
	* 1-533-701-11	HOLDER, FUSE (F1)

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Ne les remplacer que par une piéce portant le numéro spécifié.

GA **GB** **GC**

REF NO.	PART NO.	DESCRIPTION			REMARK
		< CONNECTOR>			
CN1	* 1-535-419-00	TAB, FASTEN (PCB)			
CN2	* 1-535-419-00	TAB, FASTEN (PCB)			
CN3	* 1-535-419-00	TAB, FASTEN (PCB)			
CN4	* 1-535-419-00	TAB, FASTEN (PCB)			
		< FUSE >			
F1	⚠ 1-533-623-11	FUSE, GLASS CYLINDERICAL 10A 250V (D50Q)			
F1	⚠ 1-576-233-41	FUSE (H.B.C) T6.15AH 250V (D50QM)			
**					
	* A-1311-507-A	GB MOUNTED PC BOARD ***********************			
		< CAPACITOR >			
C70	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V
C71	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V
C79	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C166	1-136-165-00	FILM	0.1MF	5%	50V
C167	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C168	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50C
C169	1-136-165-00	FILM	0.1MF	5%	50V
C172	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C173	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C174	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C181	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C182	1-126-960-11	ELECT	1MF	20%	50V
C183	1-104-665-11	ELECT	100MF	20%	25V
		< DIODE >			
D159	8-719-106-71	DIODE RD12M-B2			
D161	8-719-107-87	THYRISTOR 03P2M			
D162	8-719-106-23	DIODE RD7.5M-B2			
D163	8-719-510-02	DIODE D1NS4			
D172	8-719-510-02	DIODE D1NS4			
D173	8-719-801-78	DIODE 1SS184			
D174	8-719-109-97	DIODE RD6.8ESB2			
		< IC >			
IC151	8-759-191-54	IC UC3854N			
		< TRANSISTOR >			
Q155	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q156	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q157	8-729-216-22	TRANSISTOR 2SA1162-G			
		< RESISTOR >			
R60	1-215-475-00	METAL	180K	1%	1/4W
R61	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R62	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W
R63	1-215-475-00	METAL	180K	1%	1/4W
R64	1-215-475-00	METAL	180K	1%	1/4W
R65	1-215-475-00	METAL	180K	1%	1/4W
R66	1-215-475-00	METAL	180K	1%	1/4W
R67	1-216-676-11	METAL CHIP	11K	0.50%	1/10W
R68	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R69	1-215-475-00	METAL	180K	1%	1/4W
R70	1-216-668-11	METAL CHIP	5.1K	0.50%	1/10W
R71	1-247-863-91	CARBON	22K	5%	1/4W
R72	1-247-897-11	CARBON	560K	5%	1/4W
R73	1-247-897-11	CARBON	560K	5%	1/4W
R172	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R173	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R174	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R175	1-216-105-91	METAL GLAZE	220K	5%	1/10W
R176	1-247-895-91	CARBON	470K	5%	1/4W
R177	1-247-895-91	CARBON	470K	5%	1/4W
R178	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R179	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R180	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R181	1-216-101-00	METAL GLAZE	150K	5%	1/10W
R183	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R185	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R189	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R190	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R192	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R193	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R195	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R196	1-247-863-91	CARBON	22K	5%	1/4W
R203	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
		< VARIABLE RESISTOR >			
RV60	1-241-761-11	RES, ADJ, CERMET 1K			
**					
	* A-1311-508-A	GC MOUNTED PC BOARD ******************			
		< CAPACITOR >			
C400	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C401	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C402	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C403	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C404	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C406	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C407	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C409	1-102-820-00	CERAMIC	330PF	5%	50V
C411	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C412	1-136-171-00	FILM	0.33MF	5%	50V
C422	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C423	1-126-967-11	ELECT	47MF	20%	50V
C450	1-102-114-00	CERAMIC	470PF	10%	50V
C453	1-164-222-11	CERAMIC CHIP	0.22MF		25V
		< CONNECTOR>			
CN856	* 1-569-968-11	PLUG (WITH CONNECTOR) (L) 11P			
		< DIODE >			
D400	8-719-986-73	DIODE RB441Q			
D401	8-719-986-73	DIODE RB441Q			
D402	8-719-801-78	DIODE 1SS184			
D403	8-719-801-78	DIODE 1SS184			
D404	8-719-801-78	DIODE 1SS184			
D405	8-719-106-44	DIODE RD9.1M-B2			

GC **H**

REF NO.	PART NO.	DESCRIPTION	REMARK
		< IC >	
IC400	8-759-298-87	IC CXA8038P	
		< TRANSISTOR >	
Q402	8-729-216-22	TRANSISTOR 2SA1162-G	
Q403	8-729-216-22	TRANSISTOR 2SA1162-G	
Q404	8-729-900-53	TRANSISTOR DTC114EK	
Q405	8-729-140-96	TRANSISTOR 2SD774-34	
		< RESISTOR >	
R400	1-216-009-00	METAL GLAZE 22 5% 1/10W	
R401	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R406	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R407	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R410	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R411	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R412	1-216-097-91	METAL GLAZE 100K 5% 1/10W	
R413	1-249-389-11	CARBON 4.7 5% 1/4W	F
R414	1-249-389-11	CARBON 4.7 5% 1/4W	F
R415	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R416	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R417	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R418	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R419	1-216-295-91	CONDUCTOR, CHIP (2012)	
R420	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R428	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R429	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R430	1-249-425-11	CARBON 4.7K 5% 1/4W	
		< VARIABLE RESISTOR >	
RV401	1-241-785-11	RES, ADJ, CERMET 10K	
		< TRANSFORMER >	
T400	1-429-741-11	TRANSFORMER, DRIVE	
**			
	* A-1372-269-A	H MOUNTED PC BOARD **********************	
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)	
		< CAPACITOR >	
C701	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C702	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C703	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C704	1-163-239-11	CERAMIC CHIP 33PF 5% 50V	
C705	1-163-239-11	CERAMIC CHIP 33PF 5% 50V	
C706	1-128-589-11	ELECT CHIP 47MF 20% 6.3V	
C707	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C708	1-164-299-11	CERAMIC CHIP 0.22MF 10% 25V	
		< CONNECTOR>	
CN700	* 1-564-519-11	PLUG, CONNECTOR 4P	
		< DIODE >	
D701	8-719-045-53	DIODE SEC1801C	
D702	8-719-045-53	DIODE SEC1801C	
D703	8-719-045-53	DIODE SEC1801C	
D704	8-719-045-53	DIODE SEC1801C	
D705	8-719-045-53	DIODE SEC1801C	
D706	8-719-045-53	DIODE SEC1801C	
D707	8-719-045-53	DIODE SEC1801C	
D708	8-719-045-61	DIODE SEC1901C	
D709	8-719-045-61	DIODE SEC1901C	
D710	8-719-045-61	DIODE SEC1901C	
D711	8-719-045-61	DIODE SEC1901C	
D712	8-719-045-61	DIODE SEC1901C	
D713	8-719-045-61	DIODE SEC1901C	
D714	8-719-045-61	DIODE SEC1901C	
D715	8-719-045-61	DIODE SEC1901C	
D716	8-719-045-61	DIODE SEC1901C	
D717	8-719-045-61	DIODE SEC1901C	
D718	8-719-045-61	DIODE SEC1901C	
D719	8-719-045-61	DIODE SEC1901C	
D720	8-719-045-61	DIODE SEC1901C	
D721	8-719-045-61	DIODE SEC1901C	
D722	8-719-045-61	DIODE SEC1901C	
D723	8-719-045-61	DIODE SEC1901C	
D724	8-719-045-61	DIODE SEC1901C	
D725	8-719-045-61	DIODE SEC1901C	
D726	8-719-045-61	DIODE SEC1901C	
D727	8-719-045-61	DIODE SEC1901C	
D728	8-719-045-61	DIODE SEC1901C	
D729	8-719-045-61	DIODE SEC1901C	
D730	8-719-045-61	DIODE SEC1901C	
D731	8-719-045-61	DIODE SEC1901C	
D732	8-719-045-61	DIODE SEC1901C	
D733	8-719-045-61	DIODE SEC1901C	
D734	8-719-045-61	DIODE SEC1901C	
D735	8-719-045-61	DIODE SEC1901C	
D736	8-719-045-61	DIODE SEC1901C	
D737	8-719-045-61	DIODE SEC1901C	
D738	8-719-045-61	DIODE SEC1901C	
D739	8-719-045-61	DIODE SEC1901C	
D740	8-719-045-61	DIODE SEC1901C	
D741	8-719-045-61	DIODE SEC1901C	
D742	8-719-045-61	DIODE SEC1901C	
D743	8-719-045-61	DIODE SEC1901C	
D744	8-719-045-61	DIODE SEC1901C	
D745	8-719-045-61	DIODE SEC1901C	
D746	8-719-045-61	DIODE SEC1901C	
D747	8-719-801-78	DIODE 1SS184	
D750	8-719-801-78	DIODE 1SS184	
D751	8-719-105-82	DIODE RD5.1M-B2	
D752	8-719-801-78	DIODE 1SS184	
D753	8-719-801-78	DIODE 1SS184	
		< IC >	
IC701	8-759-436-34	IC µPD17215	
		< TRANSISTOR >	
Q702	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q703	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q704	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
Q705	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	

REF NO.	PART NO.	DESCRIPTION				REMARK
Q706	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q710	8-729-216-22	TRANSISTOR 2SA1162-G				
Q711	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
Q712	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L				
		< RESISTOR >				
R701	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R702	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R703	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R704	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R705	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R706	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R707	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R708	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R709	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R710	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R711	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R712	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R713	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R714	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R715	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R716	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R717	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R718	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R719	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R720	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R721	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R722	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R723	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R735	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R736	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R737	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R738	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R739	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R740	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R741	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R742	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R743	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R744	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R745	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R746	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R747	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R748	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R749	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R751	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R752	1-247-855-31	CARBON	10K	5%	1/4W	
		< SWITCH >				
S701	1-692-679-21	SWITCH, TACTILE				
S702	1-692-679-21	SWITCH, TACTILE				
S703	1-692-679-21	SWITCH, TACTILE				
S704	1-692-679-21	SWITCH, TACTILE				
S705	1-692-679-21	SWITCH, TACTILE				
S706	1-692-679-21	SWITCH, TACTILE				
S707	1-692-679-21	SWITCH, TACTILE				
S708	1-692-679-21	SWITCH, TACTILE				
S709	1-692-679-21	SWITCH, TACTILE				
S710	1-692-679-21	SWITCH, TACTILE				

REF NO.	PART NO.	DESCRIPTION	REMARK
S711	1-692-679-21	SWITCH, TACTILE	
S712	1-692-679-21	SWITCH, TACTILE	
S713	1-692-679-21	SWITCH, TACTILE	
S714	1-692-679-21	SWITCH, TACTILE	
S715	1-692-679-21	SWITCH, TACTILE	
S716	1-692-679-21	SWITCH, TACTILE	
S717	1-692-679-21	SWITCH, TACTILE	
S718	1-692-679-21	SWITCH, TACTILE	
S719	1-692-679-21	SWITCH, TACTILE	
S720	1-692-679-21	SWITCH, TACTILE	
S721	1-692-679-21	SWITCH, TACTILE	
S722	1-692-679-21	SWITCH, TACTILE	
S723	1-692-679-21	SWITCH, TACTILE	
S724	1-692-679-21	SWITCH, TACTILE	
S725	1-692-679-21	SWITCH, TACTILE	
S726	1-692-679-21	SWITCH, TACTILE	
S727	1-692-679-21	SWITCH, TACTILE	
S728	1-692-679-21	SWITCH, TACTILE	
S729	1-692-679-21	SWITCH, TACTILE	
S730	1-692-679-21	SWITCH, TACTILE	
S731	1-692-679-21	SWITCH, TACTILE	
S732	1-692-679-21	SWITCH, TACTILE	
		< CRYSTAL >	
X701	1-567-781-41	VIBRATOR, CRYSTAL (4MHz)	

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* A-1380-529-A K MOUNTED PC BOARD

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< CAPACITOR >

C1	1-101-004-00	CERAMIC	0.01MF		50V
C2	1-137-364-11	FILM	0.001MF	5%	50V
C3	1-102-973-00	CERAMIC	100PF	5%	50V
C4	1-102-973-00	CERAMIC	100PF	5%	50V
C5	1-126-933-11	ELECT	100MF	20%	16V
C6	1-126-933-11	ELECT	100MF	20%	16V
C7	1-126-933-11	ELECT	100MF	20%	16V
C8	1-126-933-11	ELECT	100MF	20%	16V
C10	1-101-004-00	CERAMIC	0.01MF		50V
C11	1-102-973-00	CERAMIC	100PF	5%	50V
C12	1-126-964-11	ELECT	10MF	20%	50V
C13	1-101-004-00	CERAMIC	0.01MF		50V
C18	1-101-004-00	CERAMIC	0.01MF		50V
C21	1-126-964-11	ELECT	10MF	20%	50V
C22	1-102-973-00	CERAMIC	100PF	5%	50V
C23	1-126-964-11	ELECT	10MF	20%	50V
C24	1-101-004-00	CERAMIC	0.01MF		50V
C25	1-128-499-11	ELECT	220MF	20%	16V
C26	1-136-169-00	FILM	0.22MF	5%	50V
C27	1-102-973-00	CERAMIC	100PF	5%	50V
C28	1-102-973-00	CERAMIC	100PF	5%	50V
C29	1-102-973-00	CERAMIC	100PF	5%	50V
C30	1-137-366-11	FILM	0.0022MF	5%	50V
C31	1-137-368-11	FILM	0.0047MF	5%	50V
C32	1-102-978-00	CERAMIC	220PF	5%	50V
C33	1-137-364-11	FILM	0.001MF	5%	50V
C34	1-126-960-11	ELECT	1MF	20%	50V

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REF NO.	PART NO.	DESCRIPTION				REMARK
C35	1-128-499-11	ELECT	220MF	20%	16V	
C36	1-126-964-11	ELECT	10MF	20%	50V	
C37	1-137-364-11	FILM	0.001MF	5%	50V	
C38	1-102-973-00	CERAMIC	100PF	5%	50V	
C39	1-126-933-11	ELECT	100MF	20%	16V	
C40	1-126-964-11	ELECT	10MF	20%	50V	
C41	1-137-366-11	FILM	0.0022MF	5%	50V	
C101	1-136-169-00	FILM	0.22MF	5%	50V	
C103	1-126-964-11	ELECT	10MF	20%	50V	
C104	1-101-004-00	CERAMIC	0.01MF		50V	
C106	1-126-967-11	ELECT	47MF	20%	50V	
C108	1-126-961-11	ELECT	2.2MF	20%	50V	
C109	1-101-004-00	CERAMIC	0.01MF		50V	
C201	1-126-964-11	ELECT	10MF	20%	50V	
C202	1-101-004-00	CERAMIC	0.01MF		50V	
C203	1-126-963-11	ELECT	4.7MF	20%	50V	
C204	1-126-963-11	ELECT	4.7MF	20%	50V	
C205	1-102-973-00	CERAMIC	100PF	5%	50V	
C206	1-126-963-11	ELECT	4.7MF	20%	50V	
C207	1-101-004-00	CERAMIC	0.01MF		50V	
C301	1-126-964-11	ELECT	10MF	20%	50V	
C302	1-101-004-00	CERAMIC	0.01MF		50V	
C303	1-126-963-11	ELECT	4.7MF	20%	50V	
C304	1-126-963-11	ELECT	4.7MF	20%	50V	
C305	1-102-973-00	CERAMIC	100PF	5%	50V	
C306	1-126-963-11	ELECT	4.7MF	20%	50V	
		< CONNECTOR>				
CN801	* 1-564-521-11	PLUG, CONNECTOR 6P				
CN802	* 1-564-507-11	PLUG, CONNECTOR 4P				
CN803	1-564-511-11	PLUG, CONNECTOR 8P				
		< DIODE >				
D1	8-719-911-19	DIODE	1SS119-25			
D5	8-719-109-85	DIODE	RD5.1ESB2			
D6	8-719-911-19	DIODE	1SS119-25			
D7	8-719-911-19	DIODE	1SS119-25			
D8	8-719-911-19	DIODE	1SS119-25			
D9	8-719-109-66	DIODE	RD3.3ESB2			
D10	8-719-110-36	DIODE	RD13ESB2			
D11	8-719-911-19	DIODE	1SS119-25			
D12	8-719-110-36	DIODE	RD13ESB2			
D13	8-719-911-19	DIODE	1SS119-25			
D14	8-719-911-19	DIODE	1SS119-25			
D101	8-719-911-19	DIODE	1SS119-25			
D102	8-719-911-19	DIODE	1SS119-25			
D201	8-719-911-19	DIODE	1SS119-25			
D202	8-719-911-19	DIODE	1SS119-25			
D301	8-719-109-85	DIODE	RD5.1ESB2			
D302	8-719-911-19	DIODE	1SS119-25			
		< IC >				
IC1	8-759-040-01	IC	MC14001BCP			
IC2	8-759-503-91	IC	TL082ACP			
IC4	8-759-140-11	IC	µPD4011BC			
IC6	8-759-103-93	IC	µPC393C			
IC7	8-759-240-40	IC	TC4040BP			
IC8	8-759-045-72	IC	MC14572UBCP			
IC9	8-759-503-91	IC	TL082ACP			

REF NO.	PART NO.	DESCRIPTION					REMARK
IC10	8-759-145-58	IC	µPC4558C				
IC11	8-759-908-15	IC	TL431CLP				
IC101	8-759-103-93	IC	µPC393C				
IC201	8-759-103-93	IC	µPC393C				
IC301	8-759-103-93	IC	µPC393C				
		< COIL >					
L1	1-412-533-21	INDUCTOR		47µH			
L2	1-412-533-21	INDUCTOR		47µH			
		< TRANSISTOR >					
Q2	8-729-119-76	TRANSISTOR	2SA1175-HFE				
Q3	8-729-119-78	TRANSISTOR	2SC2785-HFE				
Q4	8-729-119-76	TRANSISTOR	2SA1175-HFE				
Q11	8-729-119-78	TRANSISTOR	2SC2785-HFE				
Q12	8-729-140-96	TRANSISTOR	2SD774-34				
Q13	8-729-140-97	TRANSISTOR	2SB734-34				
Q14	8-729-119-76	TRANSISTOR	2SA1175-HFE				
Q15	8-729-119-78	TRANSISTOR	2SC2785-HFE				
Q101	8-729-030-03	TRANSISTOR	DTC144ESA-TP				
Q102	8-729-030-03	TRANSISTOR	DTC144ESA-TP				
Q201	8-729-030-03	TRANSISTOR	DTC144ESA-TP				
Q202	8-729-030-03	TRANSISTOR	DTC144ESA-TP				
Q301	8-729-030-03	TRANSISTOR	DTC144ESA-TP				
Q401	8-729-030-03	TRANSISTOR	DTC144ESA-TP				
Q402	8-729-030-03	TRANSISTOR	DTC144ESA-TP				
		< RESISTOR >					
R4	1-249-417-11	CARBON		1K	5%	1/4W	
R5	1-247-807-31	CARBON		100	5%	1/4W	
R6	1-249-436-11	CARBON		39K	5%	1/4W	
R7	1-249-429-11	CARBON		10K	5%	1/4W	
R10	1-249-417-11	CARBON		1K	5%	1/4W	
R11	1-247-843-11	CARBON		3.3K	5%	1/4W	
R12	1-249-429-11	CARBON		10K	5%	1/4W	
R13	1-249-429-11	CARBON		10K	5%	1/4W	
R14	1-249-429-11	CARBON		10K	5%	1/4W	
R15	1-249-425-11	CARBON		4.7K	5%	1/4W	
R17	1-247-843-11	CARBON		3.3K	5%	1/4W	
R18	1-249-431-11	CARBON		15K	5%	1/4W	
R19	1-249-417-11	CARBON		1K	5%	1/4W	
R20	1-249-417-11	CARBON		1K	5%	1/4W	
R21	1-249-417-11	CARBON		1K	5%	1/4W	
R38	1-247-843-11	CARBON		3.3K	5%	1/4W	
R39	1-215-863-11	METAL OXIDE		100	5%	1W	F
R41	1-249-417-11	CARBON		1K	5%	1/4W	
R42	1-247-895-91	CARBON		470K	5%	1/4W	
R43	1-247-807-31	CARBON		100	5%	1/4W	
R44	1-247-807-31	CARBON		100	5%	1/4W	
R45	1-249-401-11	CARBON		47	5%	1/4W	F
R46	1-249-417-11	CARBON		1K	5%	1/4W	
R47	1-215-863-11	METAL OXIDE		100	5%	1W	F
R48	1-247-903-00	CARBON		1M	5%	1/4W	
R49	1-249-425-11	CARBON		4.7K	5%	1/4W	
R50	1-247-881-00	CARBON		120K	5%	1/4W	
R51	1-247-901-11	CARBON		820K	5%	1/4W	
R52	1-249-417-11	CARBON		1K	5%	1/4W	
R53	1-249-429-11	CARBON		10K	5%	1/4W	

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

- The components identified by ⧗ in this manual have been carefully factory-selected for each set in order ot satisfy regulations regarding X-rey rediation.
Should replacement be required, replace only with the value originally used.

K **L**

REF NO.	PART NO.	DESCRIPTION			REMARK
R54	1-249-411-11	CARBON	330	5%	1/4W
R55	1-249-429-11	CARBON	10K	5%	1/4W
R56	1-249-429-11	CARBON	10K	5%	1/4W
R57	1-249-431-11	CARBON	15K	5%	1/4W
R58	1-247-807-31	CARBON	100	5%	1/4W
R59	1-249-417-11	CARBON	1K	5%	1/4W
R60	1-247-843-11	CARBON	3.3K	5%	1/4W
R61	1-249-417-11	CARBON	1K	5%	1/4W
R62	1-215-445-00	METAL	10K	1%	1/4W
R63	1-215-447-00	METAL	12K	1%	1/4W
R64	1-215-456-00	METAL	30K	1%	1/4W
R65	1-247-807-31	CARBON	100	5%	1/4W
R66	1-249-440-11	CARBON	82K	5%	1/4W
R67	1-215-421-00	METAL	1K	1%	1/4W
R68	1-247-863-91	CARBON	22K	5%	1/4W
R69	1-249-417-11	CARBON	1K	5%	1/4W
R70	1-249-429-11	CARBON	10K	5%	1/4W
R71	1-249-417-11	CARBON	1K	5%	1/4W
R72	1-215-455-00	METAL	27K	1%	1/4W
R73	1-215-447-00	METAL	12K	1%	1/4W
R74	1-215-445-00	METAL	10K	1%	1/4W
R75	1-247-807-31	CARBON	100	5%	1/4W
R76	1-249-417-11	CARBON	1K	5%	1/4W
R101	1-215-473-00	METAL	150K	1%	1/4W
R102	1-215-465-00	METAL	68K	1%	1/4W
R103	1-249-417-11	CARBON	1K	5%	1/4W
R104	1-247-843-11	CARBON	3.3K	5%	1/4W
R105	1-249-417-11	CARBON	1K	5%	1/4W
R106	1-249-417-11	CARBON	1K	5%	1/4W
R107	1-247-863-91	CARBON	22K	5%	1/4W
R108	1-249-441-11	CARBON	100K	5%	1/4W
R109	1-249-435-11	CARBON	33K	5%	1/4W
R110	1-249-437-11	CARBON	47K	5%	1/4W
R112	1-249-417-11	CARBON	1K	5%	1/4W
R113	1-249-425-11	CARBON	4.7K	5%	1/4W
R114	1-249-425-11	CARBON	4.7K	5%	1/4W
R115	1-247-807-31	CARBON	100	5%	1/4W
R201	1-215-471-00	METAL	120K	1%	1/4W
R202	1-215-459-00	METAL	39K	1%	1/4W
R203	1-215-449-00	METAL	15K	1%	1/4W
R204	1-215-461-00	METAL	47K	1%	1/4W
R205	1-215-461-00	METAL	47K	1%	1/4W
R206	1-249-417-11	CARBON	1K	5%	1/4W
R207	1-249-417-11	CARBON	1K	5%	1/4W
R208	1-249-439-11	CARBON	68K	5%	1/4W
R209	1-247-863-91	CARBON	22K	5%	1/4W
R210	1-249-437-11	CARBON	47K	5%	1/4W
R211	1-249-437-11	CARBON	47K	5%	1/4W
R212	1-249-417-11	CARBON	1K	5%	1/4W
R213	1-249-417-11	CARBON	1K	5%	1/4W
R214	1-249-425-11	CARBON	4.7K	5%	1/4W
R215	1-249-425-11	CARBON	4.7K	5%	1/4W
R216	1-247-807-31	CARBON	100	5%	1/4W
R301	1-215-471-00	METAL	120K	1%	1/4W
R302	1-215-459-00	METAL	39K	1%	1/4W
R303	1-247-843-11	CARBON	3.3K	5%	1/4W
R305	1-249-417-11	CARBON	1K	5%	1/4W
R306	1-249-417-11	CARBON	1K	5%	1/4W
R308	1-249-439-11	CARBON	68K	5%	1/4W

REF NO.	PART NO.	DESCRIPTION			REMARK
R309	1-247-863-91	CARBON	22K	5%	1/4W
R310	1-249-437-11	CARBON	47K	5%	1/4W
R311	1-249-437-11	CARBON	47K	5%	1/4W
R312	1-249-417-11	CARBON	1K	5%	1/4W
R313	1-249-417-11	CARBON	1K	5%	1/4W
R314	1-249-425-11	CARBON	4.7K	5%	1/4W
		< VARIABLE RESISTOR >			
⧗ RV1	⚠ 1-238-789-11	RES, ADJ, CERMET 50K			
⧗ RV2	⚠ 1-238-788-11	RES, ADJ, CERMET 20K			
		< TEST PIN >			
TP1	1-537-864-11	PIN, POST			
TP5	1-537-864-11	PIN, POST			
TP6	1-537-864-11	PIN, POST			
TP9	1-537-864-11	PIN, POST			
TP10	1-537-864-11	PIN, POST			
TP11	1-537-864-11	PIN, POST			
		< CRYSTAL >			
X1	1-578-768-11	VIBLATOR, CERAMIC (495KHz)			

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	* A-1390-666-A	L MOUNTED PC BOARD **********************			
		< CAPACITOR >			
C801	1-126-204-11	ELECT	47MF	20%	16V
C802	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C803	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C804	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
		< DIODE >			
D801	8-719-045-60	DIODE SEC1401C			
D802	8-719-045-53	DIODE SEC1801C			
D803	8-719-962-02	DIODE GL-6P202			
		< IC >			
IC801	8-741-780-51	IC SBX1780-51			
IC802	8-759-926-77	IC SN74HC541ANS			
IC803	8-759-044-95	IC MC14495P1			
IC804	8-759-044-95	IC MC14495P1			
		< COIL >			
L801	1-412-062-11	INDUCTOR CHIP	47μH		
L802	1-412-062-11	INDUCTOR CHIP	47μH		
		< TRANSISTOR >			
Q801	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q802	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q803	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q804	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q805	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
		< RESISTOR>			
R801	1-216-025-91	METAL GLAZE	100	5%	1/10W
R802	1-216-033-00	METAL GLAZE	220	5%	1/10W
R803	1-216-025-91	METAL GLAZE	100	5%	1/10W

REF NO.	PART NO.	DESCRIPTION				REMARK
R804	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R805	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R806	1-216-097-91	METAL GLAZE	100K	5%	1/10W	
R807	1-216-097-91	METAL GLAZE	100K	5%	1/10W	

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REF NO.	PART NO.	DESCRIPTION				REMARK
	* A-1304-103-A	M MOUNTED PC BOARD ***********************				
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)				
		< CAPACITOR >				
C600	1-126-968-11	ELECT	100MF	20%	50V	
C601	1-126-968-11	ELECT	100MF	20%	50V	
C602	1-126-968-11	ELECT	100MF	20%	50V	
C603	1-126-968-11	ELECT	100MF	20%	50V	
C604	1-124-455-00	ELECT	100MF	20%	16V	
C605	1-124-455-00	ELECT	100MF	20%	16V	
C606	1-124-455-00	ELECT	100MF	20%	16V	
C607	1-107-637-11	ELECT	22MF	20%	160V	
C608	1-125-473-11	ELECT(BLOCK)	1000MF	20%	160V	
C609	1-107-652-11	ELECT	10MF	20%	250V	
C610	1-126-942-61	ELECT	1000MF	20%	25V	
C611	1-126-942-61	ELECT	1000MF	20%	25V	
C612	1-126-942-61	ELECT	1000MF	20%	25V	
		< CONNECTOR>				
CN901	* 1-564-512-11	PLUG, CONNECTOR 9P				
CN902	* 1-564-514-11	PLUG, CONNECTOR 11P				
CN903	* 1-564-514-11	PLUG, CONNECTOR 11P				
CN904	* 1-564-514-11	PLUG, CONNECTOR 11P				
CN905	* 1-564-515-11	PLUG, CONNECTOR 12P				
CN906	* 1-564-511-11	PLUG, CONNECTOR 8P				
CN907	* 1-564-512-11	PLUG, CONNECTOR 9P				
CN910	* 1-564-511-11	PLUG, CONNECTOR 8P				
CN911	* 1-564-511-11	PLUG, CONNECTOR 8P				
CN912	* 1-564-511-11	PLUG, CONNECTOR 8P				
CN913	* 1-564-510-11	PLUG, CONNECTOR 7P				
CN914	* 1-564-510-11	PLUG, CONNECTOR 7P				
CN915	* 1-564-510-11	PLUG, CONNECTOR 7P				
CN916	* 1-564-507-11	PLUG, CONNECTOR 4P				
CN917	* 1-564-507-11	PLUG, CONNECTOR 4P				
CN918	* 1-564-507-11	PLUG, CONNECTOR 4P				
CN919	* 1-564-512-11	PLUG, CONNECTOR 9P				
CN920	* 1-564-515-11	PLUG, CONNECTOR 12P				
CN921	* 1-564-511-61	PLUG, CONNECTOR 8P				
CN922	* 1-564-715-11	PIN, CONNECTOR (SMALL TYPE)13P				
CN923	* 1-564-717-11	PIN, CONNECTOR (SMALL TYPE)15P				
CN926	* 1-564-507-11	PLUG, CONNECTOR 4P				
CN927	* 1-564-516-11	PLUG, CONNECTOR 13P				
CN928	* 1-564-506-11	PLUG, CONNECTOR 3P				
CN929	* 1-564-506-11	PLUG, CONNECTOR 3P				
CN930	* 1-564-506-11	PLUG, CONNECTOR 3P				
CN931	* 1-564-513-11	PLUG, CONNECTOR 10P				
CN932	1-564-505-11	PLUG, CONNECTOR 2P				
CN933	* 1-564-505-11	PLUG, CONNECTOR 2P				
CN934	* 1-564-510-11	PLUG, CONNECTOR 7P				
		< JACK >				
J900	1-568-548-11	JACK, MINIATUER PIN				
J901	1-568-548-11	JACK, MINIATUER PIN				
J902	1-568-548-11	JACK, MINIATUER PIN				
J903	1-568-548-11	JACK, MINIATUER PIN				
J904	1-568-548-11	JACK, MINIATUER PIN				
J905	1-568-548-11	JACK, MINIATUER PIN				
J906	1-568-548-11	JACK, MINIATUER PIN				
J907	1-568-548-11	JACK, MINIATUER PIN				
J908	1-568-548-11	JACK, MINIATUER PIN				
		< RESISTOR >				
R600	1-216-447-00	METAL OXIDE	27	5%	2W	F
R601	1-216-447-00	METAL OXIDE	27	5%	2W	F
R602	1-216-447-00	METAL OXIDE	27	5%	2W	F
R603	1-216-365-00	METAL OXIDE	0.47	5%	2W	F

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REF NO.	PART NO.	DESCRIPTION				REMARK
	* A-1390-665-A	N MOUNTED PC BOARD *********************				
		< CAPACITOR >				
C750	1-124-589-11	ELECT	47MF	20%	16V	
		< CONNECTOR>				
CN755	* 1-564-518-11	PLUG, CONNECTOR 3P				
		< IC >				
IC750	8-741-820-59	IC SBX1820-59				

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REF NO.	PART NO.	DESCRIPTION				REMARK
	* A-1190-251-A	PA MOUNTED PC BOARD **********************				
	3-899-248-11	SCREW (M3X8)				
	4-056-066-01	HOLDER (C), TR				
	4-056-413-01	SHEET (PA), RADIATION				
	* 4-056-447-01	HOLDER (PA), TP				
	4-393-406-01	SHEET (R), RADIATION				
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)				
		< CAPACITOR >				
C1	1-126-943-11	ELECT	2200MF	20%	25V	
C2	1-104-664-11	ELECT	47MF	20%	25V	
C3	1-104-665-11	ELECT	100MF	20%	25V	
C4	1-104-665-11	ELECT	100MF	20%	25V	
C5	1-126-934-11	ELECT	220MF	20%	16V	
C6	1-126-934-11	ELECT	220MF	20%	16V	
C7	1-136-165-00	FILM	0.1MF	5%	50V	
C8	1-136-165-00	FILM	0.1MF	5%	50V	
C9	1-126-929-11	ELECT	4700MF	20%	10V	
C10	1-137-540-11	FILM	0.0082MF	5%	630V	
C11	1-126-929-11	ELECT	4700MF	20%	10V	
C12	1-136-165-00	FILM	0.1MF	5%	50V	
C13	1-136-165-00	FILM	0.1MF	5%	50V	
C14	1-136-729-11	FILM	1.5MF	5%	400V	
C15	1-123-024-21	ELECT	33MF		160V	

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

REF NO.	PART NO.	DESCRIPTION			REMARK
C16	1-126-964-11	ELECT	10MF	20%	50V
C17	1-129-996-00	FILM	0.22MF	20%	630V
C18	1-136-169-00	FILM	0.22MF	5%	50V
C19	1-126-929-11	ELECT	4700MF	20%	10V
C20	1-136-153-00	FILM	0.01MF	5%	50V
C21	1-136-165-00	FILM	0.1MF	5%	50V
C22	1-102-244-00	CERAMIC	220PF	10%	500V
C23	1-136-103-00	FILM	0.1MF	5%	200V
C24	1-117-618-11	FILM	5600PF	3%	2KV
C25	1-136-085-00	FILM	0.016MF	3%	2KV
C26	1-123-024-21	ELECT	33MF		160V
C27	1-123-024-21	ELECT	33MF		160V
C28	1-101-004-00	CERAMIC	0.01MF		50V
C29	1-104-665-11	ELECT	100MF	20%	25V
C30	1-104-987-11	FILM	0.001MF	5%	200V
C31	1-126-600-11	ELECT	100MF	20%	160V
C32	1-107-370-11	FILM	0.1MF	10%	200V
C33	1-125-499-11	ELECT(BLOCK)	220MF	20%	200V
C34	1-107-364-11	FILM	0.01MF	10%	200V
C35	1-107-370-11	FILM	0.1MF	10%	200V
C36 ⚠	1-115-174-11	FILM	12000PF	3%	2KV
C37	1-136-153-00	FILM	0.01MF	5%	50V
C38	1-104-989-91	FILM	0.0022MF	5%	200V
C39	1-104-665-11	ELECT	100MF	20%	25V
C40	1-102-973-00	CERAMIC	100PF	5%	50V
C41	1-126-600-11	ELECT	100MF	20%	160V
C42	1-126-600-11	ELECT	100MF	20%	160V
C43	1-109-889-11	ELECT	1MF	20%	50V
C44	1-136-165-00	FILM	0.1MF	5%	50V
C45	1-136-561-11	FILM	0.0068MF	10%	630V
C46	1-126-960-11	ELECT	1MF	20%	50V
C47	1-102-030-00	CERAMIC	330PF	10%	500V
C48	1-136-159-00	FILM	0.033MF	5%	50V
C49	1-102-973-00	CERAMIC	100PF	5%	50V
C50	1-126-964-11	ELECT	10MF	20%	50V
C51	1-126-964-11	ELECT	10MF	20%	50V
C54	1-126-964-11	ELECT	10MF	20%	50V
C56	1-104-709-11	ELECT	4.7MF	0	160V
C57	1-126-967-11	ELECT	47MF	20%	50V
C58	1-102-050-00	CERAMIC	0.01MF	99%	500V
C59	1-126-964-11	ELECT	10MF	20%	50V
C60	1-136-173-00	FILM	0.47MF	5%	50V
C61	1-126-960-11	ELECT	1MF	20%	50V
C62	1-126-967-11	ELECT	47MF	20%	50V
C63	1-126-964-11	ELECT	10MF	20%	50V
C71	1-102-228-00	CERAMIC	470PF	10%	500V
C151	1-101-004-00	CERAMIC	0.01MF		50V
C161	1-126-964-11	ELECT	10MF	20%	50V
C171	1-126-967-11	ELECT	47MF	20%	50V
C181	1-126-960-11	ELECT	1MF	20%	50V
C182	1-126-960-11	ELECT	1MF	20%	50V
C192	1-126-960-11	ELECT	1MF	20%	50V
C202	1-126-960-11	ELECT	1MF	20%	50V
C211	1-126-964-11	ELECT	10MF	20%	50V
C212	1-126-964-11	ELECT	10MF	20%	50V
C213	1-101-004-00	CERAMIC	0.01MF		50V
C301	1-107-635-11	ELECT	4.7MF	20%	160V
C302	1-107-635-11	ELECT	4.7MF	20%	160V
C303	1-107-635-11	ELECT	4.7MF	20%	160V

REF NO.	PART NO.	DESCRIPTION	REMARK
		<CONNECTOR>	
CN601	* 1-750-916-11	PIN, CONNECTOR(DY)(PC BOARD)8P	
CN602	* 1-564-506-11	PLUG, CONNECTOR 3P	
CN603	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN605	* 1-564-511-11	PLUG, CONNECTOR 8P	
CN606	* 1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
CN607	* 1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
CN608	* 1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
CN609	* 1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
CN610	1-564-505-11	PLUG, CONNECTOR 2P	
		< DIODE >	
D1	8-719-911-19	DIODE 1SS119-25	
D2	8-719-900-95	DIODE V09G	
D3	8-719-911-19	DIODE 1SS119-25	
D4	8-719-979-58	DIODE EGP10D	
D5	8-719-979-58	DIODE EGP10D	
D6	8-719-054-86	DIODE ERC88M-009	
D7	8-719-054-86	DIODE ERC88M-009	
D8	8-719-901-19	DIODE V11N	
D9	8-719-933-13	DIODE ERC35-02	
D10	8-719-900-95	DIODE V09G	
D11	8-719-920-67	DIODE ERC91-02	
D12	8-719-901-19	DIODE V11N	
D13	8-719-110-78	DIODE RD33ESB2	
D14	8-719-911-19	DIODE 1SS119-25	
D15	8-719-920-67	DIODE ERC91-02	
D16	8-719-920-67	DIODE ERC91-02	
D17	8-719-911-19	DIODE 1SS119-25	
D18	8-719-945-81	DIODE ERC06-15SA	
D19	8-719-945-81	DIODE ERC06-15SA	
D20	8-719-900-26	DIODE ERD29-08J	
D21	8-719-911-19	DIODE 1SS119-25	
D22	8-719-911-19	DIODE 1SS119-25	
D23	8-719-110-36	DIODE RD13ESB2	
D24	8-719-110-36	DIODE RD13ESB2	
D25	8-719-920-67	DIODE ERC91-02	
D26	8-719-911-19	DIODE 1SS119-25	
D27	8-719-911-19	DIODE 1SS119-25	
D31	8-719-911-19	DIODE 1SS119-25	
D33	8-719-110-36	DIODE RD13ESB2	
D36	8-719-911-19	DIODE 1SS119-25	
D38	8-719-911-19	DIODE 1SS119-25	
D39	8-719-911-19	DIODE 1SS119-25	
D42	8-719-110-17	DIODE RD10ESB2	
D43	8-719-110-17	DIODE RD10ESB2	
D44	8-719-110-36	DIODE RD13ESB2	
D151	8-719-911-19	DIODE 1SS119-25	
D152	8-719-911-19	DIODE 1SS119-25	
D153	8-719-911-19	DIODE 1SS119-25	
D161	8-719-911-19	DIODE 1SS119-25	
D163	8-719-911-19	DIODE 1SS119-25	
D171	8-719-911-19	DIODE 1SS119-25	
D301	8-719-979-58	DIODE EGP10D	
D302	8-719-900-95	DIODE V09G	
		< FERRITE BEAD >	
FB1	1-410-396-41	FERRITE BEAD INDUCTOR 0.45μH	

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

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Ne les remplacer que par une piéce portant le numéro spécifié.

REF NO.	PART NO.	DESCRIPTION	REMARK
RB2	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH	
FB3	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH	
FB4	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH	
FB5	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH	
FB6	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH	
FB7	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH	
FB8	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH	
FB9	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH	
		< IC >	
IC1	8-759-231-58	IC TA7812S	
IC2	8-759-929-65	IC LM7912CT	
IC3	8-759-100-75	IC µPC1394C	
IC4	8-759-145-58	IC µPC4558C	
IC5	8-759-145-58	IC µPC4558C	
IC6	8-759-109-82	IC µPC814C	
		< COIL >	
L1	1-459-155-00	COIL (WITH CORE) 45µH	
L2	1-459-155-00	COIL (WITH CORE) 45µH	
L3	1-412-525-31	INDUCTOR 10µH	
L4	1-412-525-31	INDUCTOR 10µH	
L5	1-459-155-00	COIL (WITH CORE) 45µH	
L6 ⚠	1-409-543-12	COIL, CHOKE 420µH	
L7 ⚠	1-409-543-12	COIL, CHOKE 420µH	
L8	1-459-483-00	COIL (WITH CORE)	
L9	1-410-686-11	INDUCTOR 1mH	
L10	1-459-614-11	COIL, CHOKE 90µH	
L11	1-459-614-11	COIL, CHOKE 90µH	
L12	1-460-022-11	COIL, CHOKE 1.3mH	
L13	1-459-155-00	COIL (WITH CORE) 45µH	
L14	1-459-155-00	COIL (WITH CORE) 45µH	
		< TRANSISTOR >	
Q1	8-729-802-71	TRANSISTOR 2SA1407-D	
Q2	8-729-821-87	TRANSISTOR 2SD1878-CA	
Q3	8-729-030-03	TRANSISTOR DTC144ESA-TP	
Q4	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q5	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q6	8-729-143-42	TRANSISTOR 2SK929	
Q7	8-729-207-89	TRANSISTOR 2SA1358-Y	
Q8	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q9	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q10	8-729-820-71	TRANSISTOR 2SC3998CA	
Q11	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q12	8-729-140-96	TRANSISTOR 2SD774-34	
Q13	8-729-024-38	TRANSISTOR IRFIP250	
Q14	8-729-143-42	TRANSISTOR 2SK929	
Q15	8-729-140-97	TRANSISTOR 2SB734-34	
Q16	8-729-105-74	TRANSISTOR 2SK523-M1	
Q19	8-729-033-29	TRANSISTOR 2SD1210(LK)-MT2	
Q22	8-729-033-30	TRANSISTOR 2SB897(LK)-MT2	
Q24	8-729-207-82	TRANSISTOR 2SC3421-Y	
Q26	8-729-143-42	TRANSISTOR 2SK929	
Q27	8-729-143-42	TRANSISTOR 2SK929	
Q151	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q161	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q171	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q181	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q182	8-729-031-68	TRANSISTOR 2SC4630LS	
Q183	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q191	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q192	8-729-031-68	TRANSISTOR 2SC4630LS	
Q193	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q201	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q202	8-729-031-68	TRANSISTOR 2SC4630LS	
Q203	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q301	8-729-801-88	TRANSISTOR 2SA1381-E	
		< RESISTOR >	
R1	1-215-461-00	METAL 47K 1% 1/4W	
R2	1-215-432-00	METAL 3K 1% 1/4W	
R3	1-215-432-00	METAL 3K 1% 1/4W	
R4	1-215-432-00	METAL 3K 1% 1/4W	
R5	1-215-905-11	METAL OXIDE 10 5% 3W	F
R6	1-215-905-11	METAL OXIDE 10 5% 3W	F
R7	1-215-905-11	METAL OXIDE 10 5% 3W	F
R8	1-215-432-00	METAL 3K 1% 1/4W	
R9	1-215-432-00	METAL 3K 1% 1/4W	
R10	1-215-432-00	METAL 3K 1% 1/4W	
R11	1-260-294-11	CARBON 1.5 5% 1/2W	
R12	1-249-417-11	CARBON 1K 5% 1/4W	F
R13	1-215-923-00	METAL OXIDE 10K 5% 3W	F
R14	1-216-353-00	METAL OXIDE 2.2 5% 1W	F
R15	1-247-807-31	CARBON 100 5% 1/4W	
R16	1-249-429-11	CARBON 10K 5% 1/4W	
R17	1-260-296-11	CARBON 2.2 5% 1/2W	
R18	1-260-296-11	CARBON 2.2 5% 1/2W	
R19	1-247-843-11	CARBON 3.3K 5% 1/4W	
R20	1-249-420-11	CARBON 1.8K 5% 1/4W	F
R21	1-260-296-11	CARBON 2.2 5% 1/2W	
R22	1-249-441-11	CARBON 100K 5% 1/4W	
R23	1-249-417-11	CARBON 1K 5% 1/4W	
R24	1-249-421-11	CARBON 2.2K 5% 1/4W	
R25	1-249-417-11	CARBON 1K 5% 1/4W	F
R26	1-215-916-00	METAL OXIDE 680 5% 3W	F
R28	1-215-923-00	METAL OXIDE 10K 5% 3W	F
R29	1-249-431-11	CARBON 15K 5% 1/4W	
R30	1-249-441-11	CARBON 100K 5% 1/4W	
R31	1-249-417-11	CARBON 1K 5% 1/4W	
R32	1-202-843-11	SOLID 270K 20% 1/2W	
R33	1-202-843-11	SOLID 270K 20% 1/2W	
R34	1-202-843-11	SOLID 270K 20% 1/2W	
R35	1-247-807-31	CARBON 100 5% 1/4W	
R36	1-247-807-31	CARBON 100 5% 1/4W	
R37	1-249-399-11	CARBON 33 5% 1/4W	
R38	1-215-866-11	METAL OXIDE 330 5% 1W	F
R39	1-249-413-11	CARBON 470 5% 1/4W	
R40	1-249-424-11	CARBON 3.9K 5% 1/4W	F
R41	1-249-425-11	CARBON 4.7K 5% 1/4W	
R42	1-202-843-11	SOLID 270K 20% 1/2W	
R43	1-202-843-11	SOLID 270K 20% 1/2W	
R44	1-202-843-11	SOLID 270K 20% 1/2W	
R45	1-249-422-11	CARBON 2.7K 5% 1/4W	
R46	1-215-445-00	METAL 10K 1% 1/4W	
R47	1-249-437-11	CARBON 47K 5% 1/4W	
R48	1-249-429-11	CARBON 10K 5% 1/4W	
R49	1-247-895-91	CARBON 470K 5% 1/4W	
R50	1-249-421-11	CARBON 2.2K 5% 1/4W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R51	1-202-843-11	SOLID	270K	20%	1/2W	
R52	1-202-843-11	SOLID	270K	20%	1/2W	
R53	1-202-843-11	SOLID	270K	20%	1/2W	
R54	1-215-905-11	METAL OXIDE	10	5%	3W	F
R55	1-215-445-00	METAL	10K	1%	1/4W	
R56	1-249-420-11	CARBON	1.8K	5%	1/4W	
R57	1-249-429-11	CARBON	10K	5%	1/4W	F
R58	1-247-807-31	CARBON	100	5%	1/4W	
R59	1-247-807-31	CARBON	100	5%	1/4W	
R60	1-249-429-11	CARBON	10K	5%	1/4W	
R61	1-215-895-11	METAL OXIDE	3.3K	5%	2W	F
R62	1-215-895-11	METAL OXIDE	3.3K	5%	2W	F
R63	1-215-895-11	METAL OXIDE	3.3K	5%	2W	F
R64	1-215-870-11	METAL OXIDE	1.5K	5%	1W	F
R65	1-249-429-11	CARBON	10K	5%	1/4W	
R66	1-249-425-11	CARBON	4.7K	5%	1/4W	
R67	1-249-429-11	CARBON	10K	5%	1/4W	
R68	1-249-429-11	CARBON	10K	5%	1/4W	
R69	1-249-429-11	CARBON	10K	5%	1/4W	
R70	1-249-427-11	CARBON	6.8K	5%	1/4W	
R71	1-249-441-11	CARBON	100K	5%	1/4W	
R72	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R73	1-249-425-11	CARBON	4.7K	5%	1/4W	
R74	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R79	1-202-838-00	SOLID	100K	20%	1/2W	
R80	1-249-389-11	CARBON	4.7	5%	1/4W	F
R83	1-215-435-00	METAL	3.9K	1%	1/4W	
R86	1-249-405-11	CARBON	100	5%	1/4W	F
R88	1-249-381-11	CARBON	1	5%	1/4W	F
R91	1-202-838-00	SOLID	100K	20%	1/2W	
R93	1-249-381-11	CARBON	1	5%	1/4W	F
R98	1-249-437-11	CARBON	47K	5%	1/4W	
R99	1-249-405-11	CARBON	100	5%	1/4W	F
R101	1-215-421-00	METAL	1K	1%	1/4W	
R104	1-215-425-00	METAL	1.5K	1%	1/4W	
R105	1-215-407-00	METAL	270	1%	1/4W	
R108	1-202-838-00	SOLID	100K	20%	1/2W	
R109	1-249-385-11	CARBON	2.2	5%	1/4W	F
R113	1-202-818-00	SOLID	1K	20%	1/2W	
R115	1-202-842-11	SOLID	220K	20%	1/2W	
R116	1-202-842-11	SOLID	220K	20%	1/2W	
R117	1-249-417-11	CARBON	1K	5%	1/4W	F
R118	1-249-417-11	CARBON	1K	5%	1/4W	F
R119	1-249-417-11	CARBON	1K	5%	1/4W	F
R120	1-202-818-00	SOLID	1K	20%	1/2W	
R121	1-215-491-00	METAL	820K	1%	1/4W	
R122	1-215-904-11	METAL OXIDE	100K	5%	2W	F
R123	1-249-429-11	CARBON	10K	5%	1/4W	
R124	1-249-425-11	CARBON	4.7K	5%	1/4W	
R125	1-249-405-11	CARBON	100	5%	1/4W	F
R126	1-249-441-11	CARBON	100K	5%	1/4W	
R127	1-215-902-11	METAL OXIDE	47K	5%	2W	F
R128	1-249-429-11	CARBON	10K	5%	1/4W	
R129	1-215-403-00	METAL	180	1%	1/4W	
R130	1-215-429-00	METAL	2.2K	1%	1/4W	
R131	1-215-429-00	METAL	2.2K	1%	1/4W	
R137	1-247-807-31	CARBON	100	5%	1/4W	
R151	1-247-807-31	CARBON	100	5%	1/4W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R152	1-247-807-31	CARBON	100	5%	1/4W	
R153	1-249-441-11	CARBON	100K	5%	1/4W	
R154	1-249-441-11	CARBON	100K	5%	1/4W	
R155	1-247-855-31	CARBON	10K	5%	1/4W	
R156	1-247-855-31	CARBON	10K	5%	1/4W	
R161	1-249-441-11	CARBON	100K	5%	1/4W	
R162	1-249-429-11	CARBON	10K	5%	1/4W	
R163	1-249-441-11	CARBON	100K	5%	1/4W	
R171	1-249-437-11	CARBON	47K	5%	1/4W	
R172	1-249-429-11	CARBON	10K	5%	1/4W	
R180	1-202-549-00	SOLID	100	20%	1/2W	
R181	1-215-457-00	METAL	33K	1%	1/4W	
R182	1-249-429-11	CARBON	10K	5%	1/4W	
R183	1-249-429-11	CARBON	10K	5%	1/4W	
R184	1-215-451-00	METAL	18K	1%	1/4W	
R185	1-247-807-31	CARBON	100	5%	1/4W	
R186	1-247-843-11	CARBON	3.3K	5%	1/4W	
R187	1-249-437-11	CARBON	47K	5%	1/4W	
R188	1-247-895-91	CARBON	470K	5%	1/4W	
R189	1-249-428-11	CARBON	8.2K	5%	1/4W	
R190	1-202-549-00	SOLID	100	20%	1/2W	
R193	1-249-429-11	CARBON	10K	5%	1/4W	
R194	1-215-451-00	METAL	18K	1%	1/4W	
R195	1-247-807-31	CARBON	100	5%	1/4W	
R196	1-247-843-11	CARBON	3.3K	5%	1/4W	
R197	1-249-437-11	CARBON	47K	5%	1/4W	
R198	1-247-895-91	CARBON	470K	5%	1/4W	
R199	1-249-428-11	CARBON	8.2K	5%	1/4W	
R200	1-202-549-00	SOLID	100	20%	1/2W	
R203	1-249-429-11	CARBON	10K	5%	1/4W	
R204	1-215-451-00	METAL	18K	1%	1/4W	
R205	1-247-807-31	CARBON	100	5%	1/4W	
R206	1-247-843-11	CARBON	3.3K	5%	1/4W	
R207	1-249-437-11	CARBON	47K	5%	1/4W	
R208	1-247-895-91	CARBON	470K	5%	1/4W	
R209	1-249-428-11	CARBON	8.2K	5%	1/4W	
R211	1-249-437-11	CARBON	47K	5%	1/4W	
R212	1-249-429-11	CARBON	10K	5%	1/4W	
R301	1-249-429-11	CARBON	10K	5%	1/4W	F
		< SPARK GAP >				
SG1	1-519-422-11	GAP, SPARK SG2 1-519-422-11 GAP, SPARK				
		< TRANSFORMER >				
T1	1-437-078-00	TRANSFORMER, HORIZONTAL DRIVE				
T2	1-431-073-11	TRANSFORMER, LINE OUTPIT				
T3	1-424-290-11	TRANSFORMER, DRIVE				
T4	1-437-144-11	TRANSFORMER, FERRITE (HDT)				
T5	1-424-287-11	TRANSFORMER, DYNAMIC FOCUS				
		< TEST PIN >				
TP1	1-537-864-11	PIN, POST				
TP2	1-537-864-11	PIN, POST				
TP3	1-537-864-11	PIN, POST				
TP4	1-537-864-11	PIN, POST				
TP5	1-537-864-11	PIN, POST				
TP6	1-537-864-11	PIN, POST				
TP100	4-352-844-01	PIN, LEAD, COATING				

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PB **QM** **Y**

REF NO.	PART NO.	DESCRIPTION			REMARK
	* A-1190-261-A	PB MOUNTED PC BOARD			
		*****************			
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)			
		< CONNECTOR>			
CN241	* 1-564-506-11	PLUG, CONNECTOR 3P			
		< TRANSFORMER >			
FBT10 ⚠	X-4033-245-2	TRANSFORMER ASSY, FLYBACK (NX3031//JIS)			
FBT11 ⚠	X-4033-245-2	TRANSFORMER ASSY, FLYBACK (NX3031//JIS)			
		< NEON LAMP >			
NL10	1-519-108-XX	LAMP, NEON			
NL11	1-519-108-XX	LAMP, NEON			

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REF NO.	PART NO.	DESCRIPTION			REMARK
	* A-1270-372-A	QM MOUNTED PC BOARD			
		*****************			
		< CONNECTOR>			
CN801	* 1-564-515-11	PLUG, CONNECTOR 12P			
CN802	1-564-511-11	PLUG, CONNECTOR 8P			
CN803	* 1-564-512-11	PLUG, CONNECTOR 9P			
		< JACK >			
J800	1-568-547-11	JACK, MINIATUER PIN			
J801	1-568-547-11	JACK, MINIATUER PIN			
J802	1-568-547-11	JACK, MINIATUER PIN			
J803	1-568-547-11	JACK, MINIATUER PIN			
J804	1-568-547-11	JACK, MINIATUER PIN			
J805	1-568-547-11	JACK, MINIATUER PIN			

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REF NO.	PART NO.	DESCRIPTION			REMARK
	* A-1394-801-A	Y COMPLETE PC BOARD (Include YO Mounted PC BOARD)			
		*****************************			
	* 1-526-659-00	SOCKET, IC (DP) 28P			
	* 1-526-660-21	SOCKET, IC (DP) 32P			
	* 7-322-065-72	RUBBER, RTV (SE-9168) (130G)			
		< CAPACITOR >			
C101	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C102	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C103	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C104	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C105	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C106	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C107	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C108	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C109	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C110	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C111	1-126-157-11	ELECT	10MF	20%	16V
C112	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C113	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C114	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C115	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C116	1-126-157-11	ELECT	10MF	20%	16V
C117	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C118	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C119	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C120	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C121	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C122	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C123	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C124	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C125	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C126	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C127	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C128	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C129	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C130	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C131	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C132	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C133	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C134	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C135	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C136	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C137	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C138	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C139	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C140	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C141	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C142	1-136-165-00	FILM	0.1MF	5%	50V
C143	1-136-165-00	FILM	0.1MF	5%	50V
C200	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C201	1-124-584-00	ELECT	100MF	20%	10V
C202	1-124-584-00	ELECT	100MF	20%	10V
C203	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C204	1-124-584-00	ELECT	100MF	20%	10V
C205	1-124-584-00	ELECT	100MF	20%	10V
C207	1-124-589-11	ELECT	47MF	20%	16V
C208	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C209	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C210	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C400	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C401	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C402	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C403	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C404	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C405	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C406	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C407	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C408	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C409	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C410	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C411	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C412	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C413	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C414	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C415	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C416	1-126-160-11	ELECT	1MF	20%	50V
C417	1-126-160-11	ELECT	1MF	20%	50V
C418	1-124-584-00	ELECT	100MF	20%	10V
C419	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C420	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C421	1-163-031-11	CERAMIC CHIP	0.01MF		50V

REF NO.	PART NO.	DESCRIPTION	REMARK
C422	1-126-160-11	ELECT 1MF 20% 50V	
C423	1-163-037-11	CERAMIC CHIP 0.022MF 10% 50V	
C424	1-124-584-00	ELECT 100MF 20% 10V	
C425	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C430	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C432	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C434	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C435	1-124-589-11	ELECT 47MF 20% 16V	
C436	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C437	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C438	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C439	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C440	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C441	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C442	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C443	1-124-589-11	ELECT 47MF 20% 16V	
C444	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C445	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C446	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C447	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C448	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C449	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C450	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C451	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C452	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C453	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C454	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C455	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C456	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C457	1-124-589-11	ELECT 47MF 20% 16V	
C458	1-124-589-11	ELECT 47MF 20% 16V	
C459	1-124-589-11	ELECT 47MF 20% 16V	
C460	1-124-589-11	ELECT 47MF 20% 16V	
C461	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C462	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C463	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C464	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C465	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C466	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C467	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C468	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C469	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C470	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C471	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C472	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C473	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C474	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
C475	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C476	1-136-165-00	FILM 0.1MF 5% 50V	
		< CONNECTOR>	
CN10	* 1-764-795-11	SOCKET, CONNECTOR 80P	
		< DIODE >	
D100	8-719-801-78	DIODE 1SS184	
D101	8-719-801-78	DIODE 1SS184	
D102	8-719-801-78	DIODE 1SS184	
D103	8-719-801-78	DIODE 1SS184	
D104	8-719-801-78	DIODE 1SS184	

REF NO.	PART NO.	DESCRIPTION	REMARK
D105	8-719-801-78	DIODE 1SS184	
D106	8-719-801-78	DIODE 1SS184	
D107	8-719-801-78	DIODE 1SS184	
D108	8-719-801-78	DIODE 1SS184	
		< FILTER >	
FL100	1-239-899-21	FILTER, CHIP EMI	
FL101	1-239-899-21	FILTER, CHIP EMI	
FL400	1-239-400-11	FILTER, CHIP EMI	
		< IC >	
IC101	8-759-084-80	IC TC7S14F-TE85L	
IC102	8-759-421-41	IC HD6433337WA08F	
IC103	8-759-162-80	IC MM1170BFB	
IC104	8-759-100-93	IC µPC393G2	
IC105	8-759-269-12	IC SN74HCT08ANS	
IC107	8-759-430-28	IC HM6264BLFP-10LTZ	
IC108	8-759-144-82	IC µPC2405HF	
IC109	8-759-100-93	IC µPC393G2	
IC110	8-752-383-22	IC CXD108-146Q	
IC111	8-759-242-76	IC TC7W08F	
IC112	8-759-233-02	IC TC74HC273AF	
IC113	8-759-461-11	IC µPD17215GT-723	
IC401	8-759-430-28	IC HM6264BLFP-10LTZ	
IC402	8-759-387-78	IC TC551664AJ-20	
IC403	8-759-430-23	IC µPD65806GD-064-LML	
IC404	8-759-162-80	IC MM1170BFB	
IC405	8-759-461-43	IC HD6433257A44F	
IC406	8-759-387-78	IC TC551664AJ-20	
IC407	8-759-994-67	IC MB86022PF	
IC409	8-759-421-40	IC MB90091APF-114	
IC410	8-759-186-38	IC TC74VHC32F	
IC411	8-759-445-10	IC CY7C136-55JC-TEL	
IC413	8-759-186-30	IC TC74VHC14F	
IC414	8-759-186-54	IC TC74VHC164F	
IC415	8-759-185-82	IC TC74VHC153F(EL)	
IC418	8-759-097-52	IC SN75123NS	
IC419	8-759-097-52	IC SN75123NS	
IC420	8-759-240-41	IC TC74HC107AP	
IC421	8-759-185-78	IC TC74VHC132F(EL)	
IC422	8-759-186-30	IC TC74VHC14F	
IC423	8-759-394-03	IC ICS1522MT	
IC424	8-759-430-33	IC MC10H640FNR2	
IC425	8-759-186-39	IC TC74VHC74F	
IC426	8-759-186-43	IC TC74VHC123AF	
IC427	8-759-081-48	IC TC74VHC08F	
IC428	8-759-186-29	IC TC74VHC11F	
IC429	8-759-008-40	IC MC74HC4078F	
IC430	8-759-242-68	IC TC7W32F	
IC431	8-759-242-68	IC TC7W32F	
IC432	8-759-242-68	IC TC7W32F	
IC433	8-759-031-84	IC SC7S04F	
IC434	8-759-448-25	IC EPM7032QC44-12-IRE	
IC435	8-759-242-74	IC TC7W04F	
		< COIL >	
L102	1-412-390-21	INDUCTOR CHIP 0µH	
L103	1-412-533-21	INDUCTOR 47µH	
L104	1-412-533-21	INDUCTOR 47µH	

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REF NO.	PART NO.	DESCRIPTION			REMARK
L402	1-412-390-21	INDUCTOR CHIP	0μH		
L403	1-412-390-21	INDUCTOR CHIP	0μH		
L404	1-412-390-21	INDUCTOR CHIP	0μH		
L405	1-412-390-21	INDUCTOR CHIP	0μH		
		< TRANSISTOR >			
Q100	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L			
Q200	8-729-216-22	TRANSISTOR 2SA1162-G			
		< RESISTOR >			
R101	1-216-025-91	METAL GLAZE	100	5%	1/10W
R102	1-216-025-91	METAL GLAZE	100	5%	1/10W
R103	1-216-295-91	CONDUCTOR, CHIP (2012)			
R172	1-216-295-91	CONDUCTOR, CHIP (2012)			
R173	1-216-295-91	CONDUCTOR, CHIP (2012)			
R174	1-216-295-91	CONDUCTOR, CHIP (2012)			
R175	1-216-295-91	CONDUCTOR, CHIP (2012)			
R180	1-216-295-91	CONDUCTOR, CHIP (2012)			
R181	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R182	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R183	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R184	1-216-295-91	CONDUCTOR, CHIP (2012)			
R185	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R186	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R187	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R188	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R189	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R190	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R191	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R192	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R193	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R194	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R195	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R196	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R197	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R198	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R199	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R200	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R201	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R202	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R203	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R204	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R205	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R206	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R207	1-216-295-91	CONDUCTOR, CHIP (2012)			
R208	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R209	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R210	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R211	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R212	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R213	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R214	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R215	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R216	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R217	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R219	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R220	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R221	1-216-073-00	METAL GLAZE	10K	5%	1/10W

REF NO.	PART NO.	DESCRIPTION			REMARK
R222	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R223	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R224	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R225	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R226	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R227	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R228	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R229	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R232	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R233	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R235	1-216-295-91	CONDUCTOR, CHIP (2012)			
R245	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R246	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R247	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R248	1-216-295-91	CONDUCTOR, CHIP (2012)			
R249	1-247-855-31	CARBON	10K	5%	1/4W
R250	1-249-432-11	CARBON	18K	5%	1/4W
R251	1-247-807-31	CARBON	100	5%	1/4W
R252	1-249-441-11	CARBON	100K	5%	1/4W
R253	1-249-441-11	CARBON	100K	5%	1/4W
R254	1-249-429-11	CARBON	10K	5%	1/4W
R401	1-216-295-91	CONDUCTOR, CHIP (2012)			
R402	1-216-295-91	CONDUCTOR, CHIP (2012)			
R404	1-216-295-91	CONDUCTOR, CHIP (2012)			
R418	1-216-025-91	METAL GLAZE	100	5%	1/10W
R419	1-216-001-00	METAL GLAZE	10	5%	1/10W
R420	1-216-025-91	METAL GLAZE	100	5%	1/10W
R422	1-216-025-91	METAL GLAZE	100	5%	1/10W
R423	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R424	1-216-025-91	METAL GLAZE	100	5%	1/10W
R425	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R426	1-216-025-91	METAL GLAZE	100	5%	1/10W
R427	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R437	1-216-001-00	METAL GLAZE	10	5%	1/10W
R438	1-216-025-91	METAL GLAZE	100	5%	1/10W
R439	1-216-025-91	METAL GLAZE	100	5%	1/10W
R440	1-216-295-91	CONDUCTOR, CHIP (2012)			
R442	1-216-025-91	METAL GLAZE	100	5%	1/10W
R443	1-216-025-91	METAL GLAZE	100	5%	1/10W
R444	1-216-295-91	CONDUCTOR, CHIP (2012)			
R453	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R454	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R455	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R456	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R457	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R458	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R459	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R460	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R461	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R462	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R463	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R464	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R465	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R466	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R467	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R468	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R469	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R470	1-216-073-00	METAL GLAZE	10K	5%	1/10W

REF NO.	PART NO.	DESCRIPTION	REMARK
R471	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R472	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R473	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R474	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R475	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R476	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R477	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R478	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R479	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R480	1-216-295-91	CONDUCTOR, CHIP (2012)	
R481	1-216-295-91	CONDUCTOR, CHIP (2012)	
R482	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R483	1-216-295-91	CONDUCTOR, CHIP (2012)	
R489	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R491	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R492	1-216-295-91	CONDUCTOR, CHIP (2012)	
R493	1-216-295-91	CONDUCTOR, CHIP (2012)	
R494	1-216-295-91	CONDUCTOR, CHIP (2012)	
R495	1-216-295-91	CONDUCTOR, CHIP (2012)	
R496	1-216-295-91	CONDUCTOR, CHIP (2012)	
R497	1-216-295-91	CONDUCTOR, CHIP (2012)	
R498	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R499	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R500	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R501	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R502	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R505	1-216-295-91	CONDUCTOR, CHIP (2012)	
R506	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R507	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R508	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R509	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R510	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R511	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R512	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R513	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R514	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R515	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R516	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R517	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R518	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R519	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R521	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R522	1-216-295-91	CONDUCTOR, CHIP (2012)	
R523	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R524	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R528	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R529	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R530	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R532	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R533	1-216-295-91	CONDUCTOR, CHIP (2012)	
R535	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R537	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R538	1-216-295-91	CONDUCTOR, CHIP (2012)	
R540	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R541	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R543	1-216-295-91	CONDUCTOR, CHIP (2012)	
R545	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R548	1-216-047-91	METAL GLAZE 820 5% 1/10W	

REF NO.	PART NO.	DESCRIPTION	REMARK
R552	1-216-295-91	CONDUCTOR, CHIP (2012)	
R553	1-216-295-91	CONDUCTOR, CHIP (2012)	
R555	1-216-295-91	CONDUCTOR, CHIP (2012)	
R559	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R560	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R561	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R563	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R564	1-216-105-91	METAL GLAZE 220K 5% 1/10W	
R565	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R567	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R568	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R569	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R570	1-216-644-11	METAL CHIP 510 0.50% 1/10W	
R571	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R572	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R573	1-216-047-91	METAL GLAZE 820 5% 1/10W	
R574	1-216-023-00	METAL GLAZE 82 5% 1/10W	
R575	1-216-047-91	METAL GLAZE 820 5% 1/10W	
R576	1-216-023-00	METAL GLAZE 82 5% 1/10W	
R577	1-216-295-91	CONDUCTOR, CHIP (2012)	
R579	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R585	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R586	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R587	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R588	1-216-295-91	CONDUCTOR, CHIP (2012)	
R589	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R590	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R591	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R592	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R593	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R594	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R595	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R596	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R597	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R598	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R599	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R600	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R601	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R602	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R603	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R604	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R605	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R606	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R607	1-216-097-91	METAL GLAZE 100K 5% 1/10W	
R609	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R610	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
		< SWITCH >	
S100	1-571-674-11	SWITCH, SLIDE	
		< TEST PIN >	
TP100	* 1-535-877-22	CHIP, CHECKER	
TP101	* 1-535-877-22	CHIP, CHECKER	
TP102	* 1-535-877-22	CHIP, CHECKER	
TP103	* 1-535-877-22	CHIP, CHECKER	
TP104	* 1-535-877-22	CHIP, CHECKER	
TP105	* 1-535-877-22	CHIP, CHECKER	
TP106	* 1-535-877-22	CHIP, CHECKER	

REF NO.	PART NO.	DESCRIPTION	REMARK
TP107	* 1-535-877-22	CHIP, CHECKER	
TP108	* 1-535-877-22	CHIP, CHECKER	
TP109	* 1-535-877-22	CHIP, CHECKER	
TP110	* 1-535-877-22	CHIP, CHECKER	
TP111	* 1-535-877-22	CHIP, CHECKER	
TP112	* 1-535-877-22	CHIP, CHECKER	
TP114	* 1-535-877-22	CHIP, CHECKER	
TP115	* 1-535-877-22	CHIP, CHECKER	
TP116	* 1-535-877-22	CHIP, CHECKER	
TP117	* 1-535-877-22	CHIP, CHECKER	
TP118	* 1-535-877-22	CHIP, CHECKER	
TP119	* 1-535-877-22	CHIP, CHECKER	
TP120	* 1-535-877-22	CHIP, CHECKER	
TP121	* 1-535-877-22	CHIP, CHECKER	
TP122	* 1-535-877-22	CHIP, CHECKER	
TP123	* 1-535-877-22	CHIP, CHECKER	
TP124	* 1-535-877-22	CHIP, CHECKER	
TP125	* 1-535-877-22	CHIP, CHECKER	
TP126	* 1-535-877-22	CHIP, CHECKER	
TP127	* 1-535-877-22	CHIP, CHECKER	
TP128	* 1-535-877-22	CHIP, CHECKER	
TP129	* 1-535-877-22	CHIP, CHECKER	
TP130	* 1-535-877-22	CHIP, CHECKER	
TP131	* 1-535-877-22	CHIP, CHECKER	
TP132	* 1-535-877-22	CHIP, CHECKER	
TP133	* 1-535-877-22	CHIP, CHECKER	
TP134	* 1-535-877-22	CHIP, CHECKER	
TP135	* 1-535-877-22	CHIP, CHECKER	
TP400	* 1-535-877-22	CHIP, CHECKER	
TP401	* 1-535-877-22	CHIP, CHECKER	
TP402	* 1-535-877-22	CHIP, CHECKER	
TP403	* 1-535-877-22	CHIP, CHECKER	
TP404	* 1-535-877-22	CHIP, CHECKER	
TP405	* 1-535-877-22	CHIP, CHECKER	
TP406	* 1-535-877-22	CHIP, CHECKER	
TP407	* 1-535-877-22	CHIP, CHECKER	
TP408	* 1-535-877-22	CHIP, CHECKER	
TP409	* 1-535-877-22	CHIP, CHECKER	
TP410	* 1-535-877-22	CHIP, CHECKER	
TP411	* 1-535-877-22	CHIP, CHECKER	
TP412	* 1-535-877-22	CHIP, CHECKER	
TP413	* 1-535-877-22	CHIP, CHECKER	
TP414	* 1-535-877-22	CHIP, CHECKER	
TP415	* 1-535-877-22	CHIP, CHECKER	
TP416	* 1-535-877-22	CHIP, CHECKER	
TP417	* 1-535-877-22	CHIP, CHECKER	
TP418	* 1-535-877-22	CHIP, CHECKER	
TP419	* 1-535-877-22	CHIP, CHECKER	
TP420	* 1-535-877-22	CHIP, CHECKER	
TP421	* 1-535-877-22	CHIP, CHECKER	
TP422	* 1-535-877-22	CHIP, CHECKER	
TP423	* 1-535-877-22	CHIP, CHECKER	
TP424	* 1-535-877-22	CHIP, CHECKER	
TP425	* 1-535-877-22	CHIP, CHECKER	
TP426	* 1-535-877-22	CHIP, CHECKER	
TP427	* 1-535-877-22	CHIP, CHECKER	
TP429	* 1-535-877-22	CHIP, CHECKER	
TP430	* 1-535-877-22	CHIP, CHECKER	
TP431	* 1-535-877-22	CHIP, CHECKER	
TP432	* 1-535-877-22	CHIP, CHECKER	
TP433	* 1-535-877-22	CHIP, CHECKER	
TP434	* 1-535-877-22	CHIP, CHECKER	
TP435	* 1-535-877-22	CHIP, CHECKER	
TP436	* 1-535-877-22	CHIP, CHECKER	
		< CRYSTAL >	
X100	1-577-116-21	VIBRATOR, CRYSTAL (16MHz)	
X102	1-567-781-41	VIBRATOR, CRYSTAL	
X400	1-760-040-11	VIBRATOR, CRYSTAL	

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REF NO.	PART NO.	DESCRIPTION	REMARK
	* A-1394-801-A	YO MOUNTED PC BOARD ************************	
	* 1-526-660-21	SOCKET, IC (DP) 32P	
		< CAPACITOR >	
C1	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C2	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
		< IC >	
IC2	8-759-925-76	IC SN74HC08ANS	

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REF NO.	PART NO.	DESCRIPTION	REMARK
	* 9-939-547-01	IFB-40 MOUNTED PC BOARD ****************************	
		< CAPACITOR >	
C1	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C2	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C3	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C4	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C5	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C6	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C7	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C8	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C9	1-164-232-11	CERAMIC 1000PF 50V	
C10	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 50V	
C11	1-164-232-11	CERAMIC 1000PF 50V	
C12	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 50V	
C13	1-164-232-11	CERAMIC 1000PF	
C14	1-164-161-11	CERAMIC CHIP 0.0022uF 10% 50V	
C15	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C16	1-135-159-00	TANTAL CHIP 10uF 16V	
C17	1-135-159-00	TANTAL CHIP 10uF 16V	
C18	1-135-159-00	TANTAL CHIP 10uF 16V	
C19	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C20	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C21	1-135-159-00	TANTAL CHIP 10uF 16V	
C22	1-135-159-00	TANTAL CHIP 10uF 16V	
C23	1-135-159-00	TANTAL CHIP 10uF 16V	
C24	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C25	1-164-004-11	CERAMIC CHIP 0.1uF 10% 25V	
C26	1-135-159-00	TANTAL CHIP 10uF 16V	
C27	1-126-933-91	ELECT 100uF 16V	

3-3. Electrical Adjustments

3-3-1. Power Supply Block Adjustment

(G, GB, GC Boards)

- * Remove the power supply block from the unit, and connect the tool extension board.
- * Check the secondary side output voltage.

1. Main Converter Adjustment

(1) Connect a frequency counter between Pins ⑥ and ⑦ of CN861 of the G board.

(2) Turn ON the power switch.

(3) Adjust RV401 (FREQ ADJ) of the GC board so that the oscillation frequency becomes 65.0±2.0 kHz.

(4) In the same way, adjust also the frequency of Pins ⑥ and ⑦ of CN862.

2. Active Filter Voltage Adjustment

(1) Connect a digital voltmeter to the ⊕ and ⊖ sides of C163 of the G board.

(2) Turn ON the power switch.

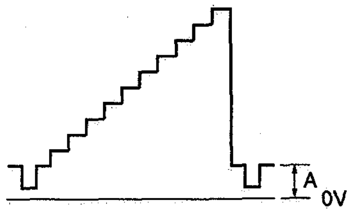
(3) Adjust RV60 (PF OUT) of the GB board so that the voltage of the ⊕ side of C163 becomes 37.0±2.0V.

3-3-2. A and Y Board Adjustment

- * Remove the A and Y board block from the unit, and connect an extension board.

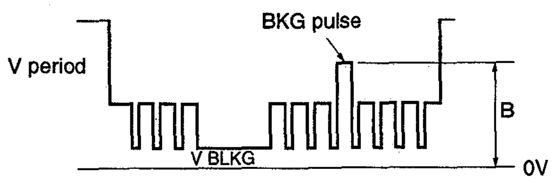
1. Signal Level Adjustment

1. Input the 10STEP signal. (Terminate each output at 75Ω.)
2. Connect an oscilloscope to (A19) (GREEN OUT) of CN2.
3. Adjust RV100 (SUB BRT) so that the pedestal level of the signal becomes the specified value.



Specified value A:0.9±0.05V

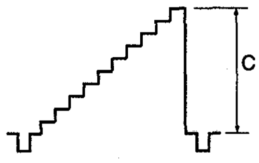
4. Adjust RV1031 (BKG LEVEL) so that the BKG pulse level o the signal becomes the specified value.



Specified value B:1.60±0.05V

2. Analog TEST Signal Oscillation Adjustment

1. To output the analog TEST signal, press the GAIN key.
2. Connect an oscilloscope to Pin ㉑ of IC1029.
3. Adjust the analog TEST signal level to the specified value using RV1300.

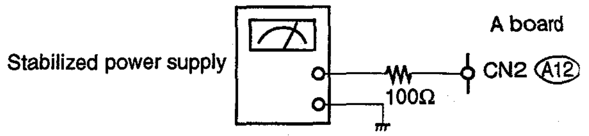


Analog signal

Specified value:C=0.714±0.02V

3. ABL Adjustment

1. Supply −12±0.5V to Pin (A12) (ABL) of CN2 as follows.



2. Gradually decrease the Q1036 emitter potential.
3. Connect a digital voltmeter to the ⊕ side (Q1032 base) o C1131.
4. Adjust RV1002 (ABL ADJ) so that the voltage of the ⊕ sid of C1131 becomes −6.05V±0.05V.
5. Remove the regulated power supply.

3-3-3. DB Board Adjustment

* Remove the unit from the DB board, and connect an extension board.

* Check the input power supply voltage.

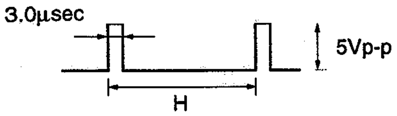
CN411 of D board

Pins ② and ③: +6V
Pins ⑦ and ⑧: –6V
Pins ④, ⑤, ⑥: GND

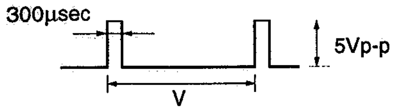
* Check the input signal

CN408 of D board

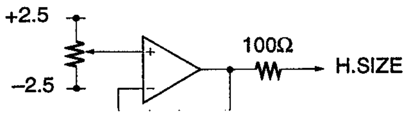
Pin ①:AD HD (15.75 kHz)



Pin ③:VD (60 Hz)



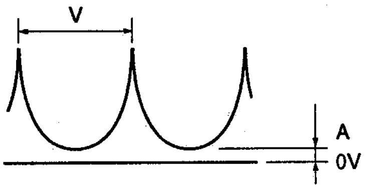
Pin ⑤:H SIZE
(Variable by ±2.5V at low impedance)



Pins ② and ④: GND

1. V PARA Offset Adjustment

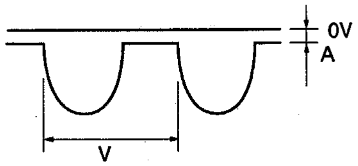
1. Connect an oscilloscope to TP405 (VP).
2. Adjust RV402 (VP:BIAS) to the specified value.



Specified value A: 0±10 mV

2. V SIN 1 Offset Adjustment

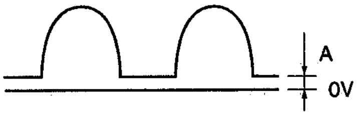
1. Connect an oscilloscope to TP411 (V SIN 1)
2. Adjust RV403 (V SIN 1 BIAS) to the specified value.



Specified value A:10±10 mV

3. V SIN 2 Offset Adjustment

(1) Connect an oscilloscope to TP412 (V SIN 2).
(2) Adjust RV401 (V SIN 2 BIAS) to the specified value.



Specified value A:0±10 mV

REF NO.	PART NO.	DESCRIPTION			REMARK
C29	1-135-159-00	TANTAL CHIP	10uF		16V
C30	1-135-159-00	TANTAL CHIP	10uF		16V
C31	1-135-159-00	TANTAL CHIP	10uF		16V
C32	1-135-159-00	TANTAL CHIP	10uF		16V
C33	1-163-082-00	CERAMIC CHIP	0.5PF		50V
C34	1-124-779-00	ELECT	10uF		16V
C35	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C36	1-126-923-11	ELECT	2200uF		10V
C37	1-135-159-00	TANTAL CHIP	10uF		16V
C38	1-163-082-00	CERAMIC CHIP	0.5PF		50V
C39	1-124-779-00	ELECT	10uF		16V
C40	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C41	1-126-923-91	ELECT	2200uF		10V
C42	1-135-159-00	TANTAL CHIP	10uF		16V
C43	1-163-082-00	CERAMIC CHIP	0.5PF		50V
C44	1-124-779-00	ELECT	10uF		16V
C45	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C46	1-126-923-91	ELECT	2200uF		10V
C47	1-135-159-00	TANTAL CHIP	10uF		16V
C48	1-135-159-00	TANTAL CHIP	10uF		16V
C51	1-124-779-00	ELECT	10uF		16V
C52	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C53	1-163-104-00	CERAMIC CHIP	30PF		50V
C54	1-163-104-00	CERAMIC CHIP	30PF		50V
C55	1-163-104-00	CERAMIC CHIP	30PF		50V
C56	1-163-104-00	CERAMIC CHIP	30PF		50V
C57	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C58	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C59	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C60	1-126-967-11	ELECT	47uF		16V
C61	1-124-779-00	ELECT	10uF		16V
C62	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C63	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C64	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C65	1-135-159-00	TANTAL CHIP	10uF		16V
C66	1-163-231-91	CERAMIC CHIP	15PF		50V
C67	1-126-923-91	ELECT	2200uF		10V
C68	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C69	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C71	1-124-779-00	ELECT	10uF		16V
C72	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C73	1-163-104-00	CERAMIC CHIP	30PF		50V
C74	1-163-104-00	CERAMIC CHIP	30PF		50V
C75	1-163-104-00	CERAMIC CHIP	30PF		50V
C76	1-163-104-00	CERAMIC CHIP	30PF		50V
C77	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C78	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C79	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C80	1-126-967-11	ELECT	47uF		16V
C81	1-124-779-00	ELECT	10uF		16V
C82	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C83	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C84	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C85	1-135-159-00	TANTAL CHIP	10uF		16V
C86	1-163-231-11	CERAMIC CHIP	15PF		50V
C87	1-126-923-91	ELECT 2200uF			10V
C91	1-124-779-00	ELECT	10uF		16V
C92	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V

REF NO.	PART NO.	DESCRIPTION			REMARK
C93	1-163-104-00	CERAMIC CHIP	30PF		50V
C94	1-163-104-00	CERAMIC CHIP	30PF		50V
C95	1-163-104-00	CERAMIC CHIP	30PF		50V
C96	1-163-104-00	CERAMIC CHIP	30PF		50V
C97	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C98	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C99	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C100	1-126-967-11	ELECT	47uF		16V
C101	1-124-779-00	ELECT	10uF		16V
C102	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C103	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C104	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C105	1-135-159-00	TANTAL CHIP	10uF		16V
C106	1-163-231-91	CERAMIC CHIP	15PF		50V
C107	1-126-923-91	ELECT	2200uF		10V
C110	1-126-933-91	ELECT	100uF		16V
C111	1-126-967-11	ELECT	47uF		16V
C112	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C113	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C114	1-126-925-91	ELECT	470uF		10V
C115	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C116	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C117	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C118	1-124-779-00	ELECT	10uF		16V
C119	1-124-779-00	ELECT	10uF		16V
C120	1-124-779-00	ELECT	10uF		16V
C121	1-124-779-00	ELECT	10uF		16V
C122	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C123	1-135-159-00	TANTAL CHIP	10uF		16V
C124	1-135-159-00	TANTAL CHIP	10uF		16V
		< CONNECTOR >			
CN1	9-939-543-01	CONNECTOR (MALE)(14P)			
CN2	9-939-544-01	CONNECTOR (FEMALE)(14P)			
CN3	9-939-546-01	MINI JACK			
		< VIBRATOR >			
CR1	9-939-555-01	CR MODULE			
CR2	9-939-555-01	CR MODULE			
CR3	9-939-555-01	CR MODULE			
		< DIODE >			
D1	8-719-800-76	DIODE	1SS226		
D2	8-719-800-76	DIODE	1SS226		
D3	8-719-157-88	DIODE	RD2.7SB		
D5	8-719-800-76	DIODE	1SS226		
D6	8-719-800-76	DIODE	1SS226		
D7	8-719-800-76	DIODE	1SS226		
D8	8-719-800-76	DIODE	1SS226		
D9	8-719-800-76	DIODE	1SS226		
D10	8-719-800-76	DIODE	1SS226		
D11	8-719-800-76	DIODE	1SS226		
D12	8-719-800-76	DIODE	1SS226		
D13	8-719-800-76	DIODE	1SS226		
D14	8-719-159-06	DIODE	RD4.7SB		
D15	8-719-157-88	DIODE	RD2.7SB		

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REF NO.	PART NO.	DESCRIPTION	REMARK
		<IC>	
IC1	8-759-981-61	IC LM2901M	
IC2	8-759-925-80	IC SN74HC14ANS	
IC3	8-759-925-72	IC SN74HC02ANS	
IC4	8-759-925-85	IC SN74HC32ANS	
IC5	8-759-710-78	IC NJM082BM	
IC6	8-759-092-80	IC SN75157PS	
IC7	8-759-239-25	IC TC74HC4066AF	
IC8	9-939-532-01	IC OPA658U	
IC9	9-939-532-01	IC OPA658U	
IC10	9-939-532-01	IC OPA658U	
IC11	9-939-532-01	IC OPA658U	
IC12	9-939-532-01	IC OPA658U	
IC13	9-939-532-01	IC OPA658U	
IC14	9-939-534-01	IC MPC100AU	
IC15	9-939-534-01	IC MPC100AU	
IC16	9-939-534-01	IC MPC100AU	
IC17	9-939-532-01	IC OPA658U	
IC18	9-939-532-01	IC OPA658U	
IC19	9-939-532-01	IC OPA658U	
IC20	8-759-710-78	IC NJM082BM	
IC21	8-759-011-65	IC MC74HC4053F	
IC22	8-759-011-65	IC MC74HC4053F	
IC23	9-939-533-01	IC SN75453BPS	
IC24	8-759-708-05	IC NJM78L05A	
IC25	8-759-231-57	IC TA7810S	
IC26	8-759-708-05	IC NJM78L05A	
IC27	8-759-710-78	IC NJM082BM	
IC27	8-759-338-94	IC NJM2903M	
		<JACK>	
J1	9-939-564-01	CONNECTOR (MALE)(DIN)(96P)	
J2	1-564-512-11	CONNECTOR (9P)	
J3	1-564-505-11	CONNECTOR (2P)	
J4	1-564-505-11	CONNECTOR (2P)	
J5	1-564-505-11	CONNECTOR (2P)	
J6	1-564-512-11	CONNECTOR (9P)	
J7	1-564-509-11	CONNECTOR (6P)	
		<LED>	
LD1	9-939-552-01	LED VR3668S	
		<TRANSISTOR>	
Q1	8-729-421-26	TRANSISTOR RN1310	
Q2	9-939-536-01	TRANSISTOR RN1423	
Q3	9-939-536-01	TRANSISTOR RN1423	
Q4	9-939-536-01	TRANSISTOR RN1423	
Q5	9-939-536-01	TRANSISTOR RN1423	
Q6	9-939-536-01	TRANSISTOR RN1423	
Q7	8-729-421-26	TRANSISTOR RN1310	
Q8	9-939-537-01	TRANSISTOR HN1B01F	
Q9	9-939-537-01	TRANSISTOR HN1B01F	
Q10	8-729-421-26	TRANSISTOR RN1310	
Q11	8-729-421-26	TRANSISTOR RN1310	
Q12	9-939-537-01	TRANSISTOR HN1B01F	
Q13	9-939-537-01	TRANSISTOR HN1B01F	
Q14	8-729-421-26	TRANSISTOR RN1310	
Q15	9-939-539-01	TRANSISTOR HN1A01F	
Q16	9-939-539-01	TRANSISTOR HN1A01F	
Q17	9-939-539-01	TRANSISTOR HN1A01F	
Q18	9-939-537-01	TRANSISTOR HN1B01F	
Q19	8-729-421-26	TRANSISTOR RN1310	
Q20	9-939-536-01	TRANSISTOR RN1423	
Q21	8-729-216-22	TRANSISTOR 2SA1162-G	
Q22	9-939-551-01	TRANSISTOR 2SA1388	
Q23	8-729-421-26	TRANSISTOR RN1310	
Q24	8-729-421-26	TRANSISTOR RN1310	
Q25	9-939-538-01	TRANSISTOR HN1C01F	
Q26	8-729-421-26	TRANSISTOR RN1310	
Q27	8-729-421-26	TRANSISTOR RN1310	
Q28	8-729-421-26	TRANSISTOR RN1310	
Q29	8-729-421-26	TRANSISTOR RN1310	
Q30	8-729-421-26	TRANSISTOR RN1310	
Q32	9-939-536-01	TRANSISTOR RN1423	
		<RESISTOR>	
R1	1-216-025-91	METAL, CHIP 100 5% 1/10W	
R2	1-216-057-00	METAL, CHIP 2.2K 5% 1/10W	
R3	1-216-081-00	METAL, CHIP 22K 5% 1/10W	
R4	1-216-049-91	METAL, CHIP 1K 5% 1/10W	
R5	1-216-081-00	METAL, CHIP 22K 5% 1/10W	
R6	1-216-049-91	METAL, CHIP 1K 5% 1/10W	
R7	1-216-065-00	METAL, CHIP 4.7K 5% 1/10W	
R8	1-216-065-00	METAL, CHIP 4.7K 5% 1/10W	
R9	1-216-009-91	METAL, CHIP 22 5% 1/10W	
R10	1-216-053-91	METAL, CHIP 1.5K 5% 1/10W	
R11	1-216-065-00	METAL, CHIP 4.7K 5% 1/10W	
R12	1-216-073-00	METAL, CHIP 10K 5% 1/10W	
R13	1-216-009-91	METAL, CHIP 22 5% 1/10W	
R14	1-216-053-91	METAL, CHIP 1.5K 5% 1/10W	
R15	1-216-065-00	METAL, CHIP 4.7K 5% 1/10W	
R16	1-216-073-00	METAL, CHIP 10K 5% 1/10W	
R17	1-216-009-91	METAL, CHIP 22 5% 1/10W	
R18	1-216-053-91	METAL, CHIP 1.5K 5% 1/10W	
R19	1-216-065-00	METAL, CHIP 4.7K 5% 1/10W	
R20	1-216-073-00	METAL, CHIP 10K 5% 1/10W	
R21	1-216-065-00	METAL, CHIP 4.7K 5% 1/10W	
R22	1-216-057-00	METAL, CHIP 2.2K 5% 1/10W	
R23	1-216-057-00	METAL, CHIP 2.2K 5% 1/10W	
R24	1-216-041-00	METAL, CHIP 470 5% 1/10W	
R25	1-216-053-91	METAL, CHIP 1.5K 5% 1/10W	
R26	1-216-065-00	METAL, CHIP 4.7K 5% 1/10W	
R27	1-216-057-00	METAL, CHIP 2.2K 5% 1/10W	
R28	1-216-073-00	METAL, CHIP 10K 5% 1/10W	
R29	1-216-053-91	METAL, CHIP 1.5K 5% 1/10W	
R30	1-216-053-91	METAL, CHIP 1.5K 5% 1/10W	
R31	1-216-073-00	METAL, CHIP 10K 5% 1/10W	
R32	1-216-053-91	METAL, CHIP 1.5K 5% 1/10W	
R33	1-216-053-91	METAL, CHIP 1.5K 5% 1/10W	
R34	1-216-089-91	METAL, CHIP 47K 5% 1/10W	
R35	1-216-624-11	METAL, CHIP 75 1% 1/10W	
R36	1-216-081-00	METAL, CHIP 22K 5% 1/10W	
R37	1-216-081-00	METAL, CHIP 22K 5% 1/10W	
R38	1-216-065-00	METAL, CHIP 4.7K 5% 1/10W	
R39	1-216-097-91	METAL, CHIP 100K 5% 1/10W	
R40	1-216-089-91	METAL, CHIP 47K 5% 1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R41	1-216-089-91	METAL, CHIP	47K	5%	1/10W	
R42	1-216-097-91	METAL, CHIP	100K	5%	1/10W	
R43	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R44	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R45	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R46	1-216-065-00	METAL, CHIP	4.7K	5%	1/10W	
R47	1-216-097-91	METAL, CHIP	100K	5%	1/10W	
R48	1-216-089-91	METAL, CHIP	47K	5%	1/10W	
R49	1-216-089-91	METAL, CHIP	47K	5%	1/10W	
R50	1-216-097-91	METAL, CHIP	100K	5%	1/10W	
R51	1-216-121-91	METAL, CHIP	1M	5%	1/10W	
R52	1-216-097-91	METAL, CHIP	100K	5%	1/10W	
R53	1-216-089-91	METAL, CHIP	47K	5%	1/10W	
R54	1-216-057-00	METAL, CHIP	2.2K	5%	1/10W	
R55	1-216-121-91	METAL, CHIP	1M	5%	1/10W	
R56	1-216-121-91	METAL, CHIP	1M	5%	1/10W	
R57	1-216-121-91	METAL, CHIP	1M	5%	1/10W	
R58	1-216-121-91	METAL, CHIP	1M	5%	1/10W	
R60	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R61	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R62	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R63	1-216-649-91	METAL, CHIP	820	1%	1/10W	
R64	1-216-649-91	METAL, CHIP	820	1%	1/10W	
R65	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R66	1-216-642-11	METAL, CHIP	430	1%	1/10W	
R67	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R68	1-216-624-11	METAL, CHIP	75	5%	1/10W	
R69	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R70	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R71	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R72	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R73	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R74	1-216-649-91	METAL, CHIP	820	1%	1/10W	
R75	1-216-649-91	METAL, CHIP	820	1%	1/10W	
R76	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R77	1-216-642-11	METAL, CHIP	430	1%	1/10W	
R78	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R79	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R80	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R81	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R82	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R83	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R84	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R85	1-216-649-91	METAL, CHIP	820	1%	1/10W	
R86	1-216-649-91	METAL, CHIP	820	1%	1/10W	
R87	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R88	1-216-642-11	METAL, CHIP	430	1%	1/10W	
R89	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R90	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R91	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R92	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R110	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R111	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R112	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R113	1-216-642-11	METAL, CHIP	430	1%	1/10W	
R114	1-216-633-11	METAL, CHIP	180	1%	1/10W	
R115	1-216-628-91	METAL, CHIP	110	1%	1/10W	
R116	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R117	1-216-308-00	METAL, CHIP	4.7	5%	1/10W	
R118	1-216-625-11	METAL, CHIP	82	1%	1/10W	
R119	1-216-631-91	METAL, CHIP	150	1%	1/10W	
R120	1-216-633-11	METAL, CHIP	180	1%	1/10W	
R121	1-208-767-11	METAL, CHIP	240	1%	1/10W	
R122	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R123	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R124	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R125	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R126	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R127	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R128	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R129	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R130	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R131	1-216-621-91	METAL, CHIP	56	1%	1/10W	
R132	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R133	1-216-641-11	METAL, CHIP	390	1%	1/10W	
R134	1-216-121-91	METAL, CHIP	1M	5%	1/10W	
R135	1-216-121-91	METAL, CHIP	1M	5%	1/10W	
R136	1-216-097-91	METAL, CHIP	100K	5%	1/10W	
R137	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R138	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R139	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R140	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R141	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R142	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R143	1-216-642-11	METAL, CHIP	430	1%	1/10W	
R144	1-216-633-11	METAL, CHIP	180	1%	1/10W	
R145	1-216-628-91	METAL, CHIP	110	1%	1/10W	
R146	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R147	1-216-308-00	METAL, CHIP	4.7	5%	1/10W	
R148	1-216-625-11	METAL, CHIP	82	1%	1/10W	
R149	1-216-631-91	METAL, CHIP	150	1%	1/10W	
R150	1-216-633-11	METAL, CHIP	180	1%	1/10W	
R151	1-208-767-11	METAL, CHIP	240	1%	1/10W	
R152	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R153	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R154	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R155	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R156	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R157	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R158	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R159	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R160	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R161	1-216-621-91	METAL, CHIP	56	1%	1/10W	
R162	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R163	1-216-641-11	METAL, CHIP	390	1%	1/10W	
R164	1-216-121-91	METAL, CHIP	1M	5%	1/10W	
R165	1-216-121-91	METAL, CHIP	1M	5%	1/10W	
R166	1-216-097-91	METAL, CHIP	100K	5%	1/10W	
R167	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R168	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R169	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R170	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R171	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R172	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R173	1-216-642-11	METAL, CHIP	430	1%	1/10W	
R174	1-216-633-11	METAL, CHIP	180	1%	1/10W	
R175	1-216-628-91	METAL, CHIP	110	1%	1/10W	

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifiés par une tramé et une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

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REF NO.	PART NO.	DESCRIPTION				REMARK
R176	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R177	1-216-308-00	METAL, CHIP	4.7	5%	1/10W	
R178	1-216-625-11	METAL, CHIP	82	1%	1/10W	
R179	1-216-631-91	METAL, CHIP	150	1%	1/10W	
R180	1-216-633-11	METAL, CHIP	180	1%	1/10W	
R181	1-208-767-11	METAL, CHIP	240	1%	1/10W	
R182	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R183	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R184	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R185	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R186	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R187	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R188	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R189	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R190	1-216-009-91	METAL, CHIP	22	5%	1/10W	
R191	1-216-621-91	METAL, CHIP	56	1%	1/10W	
R192	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R193	1-216-641-11	METAL, CHIP	390	1%	1/10W	
R194	1-216-121-91	METAL, CHIP	1M	5%	1/10W	
R195	1-216-121-91	METAL, CHIP	1M	5%	1/10W	
R196	1-216-097-91	METAL, CHIP	100K	5%	1/10W	
R197	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R198	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R199	1-216-624-11	METAL, CHIP	75	1%	1/10W	
R200	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R201	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R202	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R203	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R204	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R205	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R206	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R207	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R208	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R209	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R210	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R211	9-939-554-01	CARBON	33		1W	F
R212	9-939-553-01	METAL, CHIP	150	5%	1/4W	
R213	9-939-553-01	METAL, CHIP	150	5%	1/4W	
R214	1-216-017-91	METAL, CHIP	47	5%	1/10W	
R215	1-216-017-91	METAL, CHIP	47	5%	1/10W	
R216	1-216-041-00	METAL, CHIP	470	5%	1/10W	
R217	1-216-633-11	METAL, CHIP	180	1%	1/10W	
R218	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R219	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R220	1-216-057-00	METAL, CHIP	2.2K	5%	1/10W	
R221	1-216-041-00	METAL, CHIP	470	5%	1/10W	
R222	1-216-041-00	METAL, CHIP	470	5%	1/10W	
R223	1-249-470-11	CARBON	0.47	1/2W	F	
R224	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R225	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R226	1-216-065-00	METAL, CHIP	4.7K	5%	1/10W	
R227	1-216-041-00	METAL, CHIP	470	5%	1/10W	
R228	1-216-071-91	METAL, CHIP	8.2K	5%	1/10W	
R229	1-216-066-91	METAL, CHIP	5.1K	5%	1/10W	
R230	1-216-065-00	METAL, CHIP	4.7K	5%	1/10W	
R231	1-216-073-00	METAL, CHIP	10K	5%	1/10W	
R232	1-216-049-91	METAL, CHIP	1K	5%	1/10W	
R233	1-216-065-00	METAL, CHIP	4.7K	5%	1/10W	

REF NO.	PART NO.	DESCRIPTION				REMARK
R234	1-216-097-91	METAL, CHIP	100K	5%	1/10W	
R235	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R236	1-216-089-91	METAL, CHIP	47K	5%	1/10W	
R237	1-216-057-00	METAL, CHIP	2.2K	5%	1/10W	
R238	1-216-057-00	METAL, CHIP	2.2K	5%	1/10W	
R239	1-216-097-91	METAL, CHIP	100K	5%	1/10W	
R240	1-216-081-00	METAL, CHIP	22K	5%	1/10W	
R241	1-216-089-91	METAL, CHIP	47K	5%	1/10W	
R242	1-216-057-00	METAL, CHIP	2.2K	5%	1/10W	
R243	1-216-057-00	METAL, CHIP	2.2K	5%	1/10W	
		< RELAY >				
RY1	9-901-739-01	RELAY				
RY2	9-901-739-01	RELAY				
RY3	9-901-739-01	RELAY				
		< SWITCH >				
SW1	9-939-540-01	SWITCH, ROTARY				
SW2	9-939-541-01	SWITCH, SLIDE				

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MISCELLANEOUS
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REF NO.		PART NO.	DESCRIPTION
	⚠	1-225-401-11	RES ASSY, HIGH-VOLTAGE
	⚠	1-251-263-11	INLET, AC
		1-416-134-11	COIL, PICK UP
	⚠	1-451-450-11	DEFLECTION YOKE (Y636PF)
	⚠	1-452-429-31	NECK ASSY, CRT (NA366)
	⚠	1-452-883-11	NECK ASSEMBLY (NA-3616A)
	⚠	1-453-108-11	DC BLOCK, HIGH-VOLTAGE
	⚠	1-453-108-31	DC BLOCK, HIGH-VOLTAGE
		1-533-702-11	HOLDER, FUSE
F1	⚠	1-576-233-41	FUSE (H.B.C) T6.15A 250V (D50QM)
F1	⚠	1-533-623-11	FUSE, GLASS CYLINDERICAL 10A 250V (D50Q)
DF001		1-541-950-11	FAN, DC
DF002		1-698-059-11	FAN, DC
DF003		1-698-341-11	FAN, DC
DF004		1-698-341-11	FAN, DC
DF005		1-698-341-11	FAN, DC
	⚠	1-923-510-42	TUBE DIA16 130MM WHT
	⚠	8-598-980-00	HV BLOCK ASSY, HVB-910
FBT10	⚠	X-4033-245-2	TRANSFORMER ASSY, FLYBACK (NX3031//JIS)
FBT11	⚠	X-4033-245-2	TRANSFORMER ASSY, FLYBACK (NX3031//JIS)
V901	⚠	8-733-467-05	PICTURE TUBE (07MTS3) (R)
V902	⚠	8-733-465-05	PICTURE TUBE (07MTS3) (G)
V903	⚠	8-733-466-05	PICTURE TUBE (07MTS3) (B)

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ACCESSORY AND PACKING MATERIAL
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REF NO.		PART NO.	DESCRIPTION
		1-473-899-11	REMOTE COMMANDER (RM-PJ1000)
	⚠	1-559-303-21	CODE, POWER (D50Q)
	⚠	1-575-175-11	CORD SET, POWER (D50QM)
		1-782-021-11	CORD, CONNECTION
		3-858-829-11	MANUAL, INSTRUCTION (ENGLISH/FRENCH/SPANISH)
		3-858-829-21	MANUAL, INSTRUCTION (GERMAN/ITALIAN) (G50QM)
		3-858-829-31	MANUAL, INSTRUCTION (CHINESE) (G50QM)
		3-858-837-11	MANUAL, INSTALLATION (ENGLISH/FRENCH/SPANISH)

EF NO.	PART NO.	DESCRIPTION	REMARK
	3-858-837-21	MANUAL, INSTALLATION (GERMAN/ITALIAN) (G50QM)	
	3-858-837-31	MANUAL, INSTALLATION (CHINESE) (G50QM)	
	*4-055-350-01	INDIVIDUAL CARTON (D50Q)	
	4-056-428-01	SCREW (C),HEXAGON HEAD SPECIAL	
	4-056-460-01	COVER, LENS	
	4-057-926-01	INDIVIDUAL CARTON (D50QM)	
	*4-396-077-01	JOINT	
	A-1500-012-A	BATTERY ASSY	
	*X-4034-044-1	BASE TRAY ASSY	

REF NO.	PART NO.	DESCRIPTION	REMARK